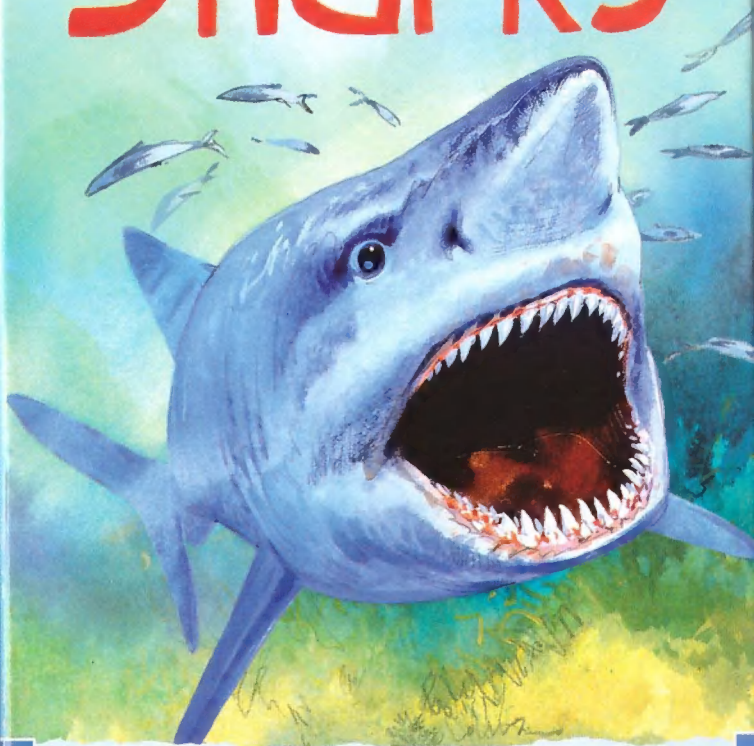


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# Sharks



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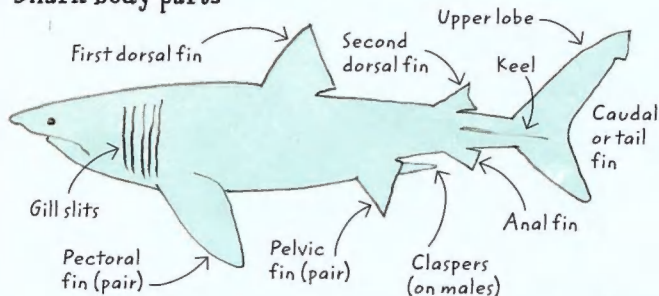
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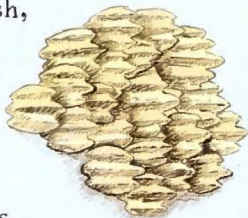
# About sharks

Sharks are a very ancient group of fish that were around before the dinosaurs. Along with their relatives, the flat-bodied rays and strange-looking chimaeras, sharks belong to a larger group called the cartilaginous fish – pronounced ‘car-ti-LA-jin-us’. These all have skeletons made up mainly of flexible cartilage (gristle) rather than hard bone.

## Shark body parts

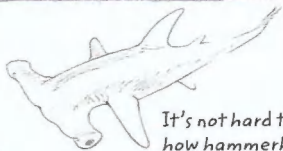


**Sharkskin** Unlike most ‘bony’ fish, which have smooth skin and flat scales, sharks have rough skin covered in tiny, tooth-like scales called denticles. Water flows slowly around a fish’s body, making it harder to swim. Denticles have ridges to channel water rapidly so that sharks use less energy swimming.

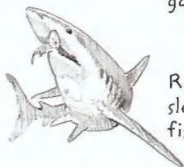


Close-up view of denticles on a lemon shark

**Variety** Think of a shark, and a great white probably comes to mind, the 'villain' of many movies. But not all sharks are scary predators. Many are small, themselves the prey of larger fish. Sharks are as varied as the ocean is wide, ranging from hand-sized dwarfs to whale-like giants.



It's not hard to see how hammerheads got their name.



Reef sharks are sleek hunters of fish and squid.



Angelsharks are slow, flat-bodied seabed sharks.

**In trouble** People often see sharks as dangerous, but they're more in danger from us. Millions are caught yearly for their meat, body parts, or sport. Many types of sharks have fewer babies than other fish; when they are over-fished, it's hard to rebuild their numbers. A lot of shark species are in danger of dying out.

## Shark records

**Biggest** Whale shark – measured up to 13m (43ft), but scientists think they may grow over 20m (66ft)

**Biggest hunter** Great white shark – 6.1m (20ft), the largest shark that is an active predator

**Biggest ever** *Megalodon* – 16m (52ft) long, this prehistoric shark was over twice the size of a great white.

**Smallest** Dwarf lanternshark – 16cm (6.25in)

**Fastest** Shortfin mako – recorded at 72kph (45mph)

# Basking shark

This giant shark  
is the second  
largest fish.

Pointed  
snout

Huge  
gill slits

Enormous  
mouth

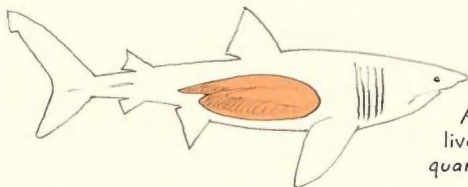




- **Gills** This shark's gill slits nearly encircle its head, letting it filter vast amounts of plankton out of the sea.

- **Sunbathers** Basking sharks were so named because they spend a lot of time at the sea's surface, where their plankton food teems plentifully. People used to think they were basking in the sun.

- **Summer visitors** Basking sharks are often spotted around the coasts of the British Isles in the summer months. They may even breed there.



A basking shark's liver takes up a quarter of its body.

- **Light livers** Sharks have oil-filled livers to let them position themselves in mid-water without sinking. Basking sharks used to be hunted for their vitamin-rich oil. The liver oil from one shark filled 14 barrels.

## Essential facts

**Where:** cool seas worldwide

**Habitat:** coasts to offshore

**Prey:** plankton (tiny sea creatures)

**Species:** *Cetorhinus maximus*

**Length:** up to 11m (36ft)

**Weight:** up to 4,000kg (8,800lbs)

**Depth:** 0-2,000m (0-6,500ft)

**Extinction risk:** high

**Family:** basking sharks

# Angelshark

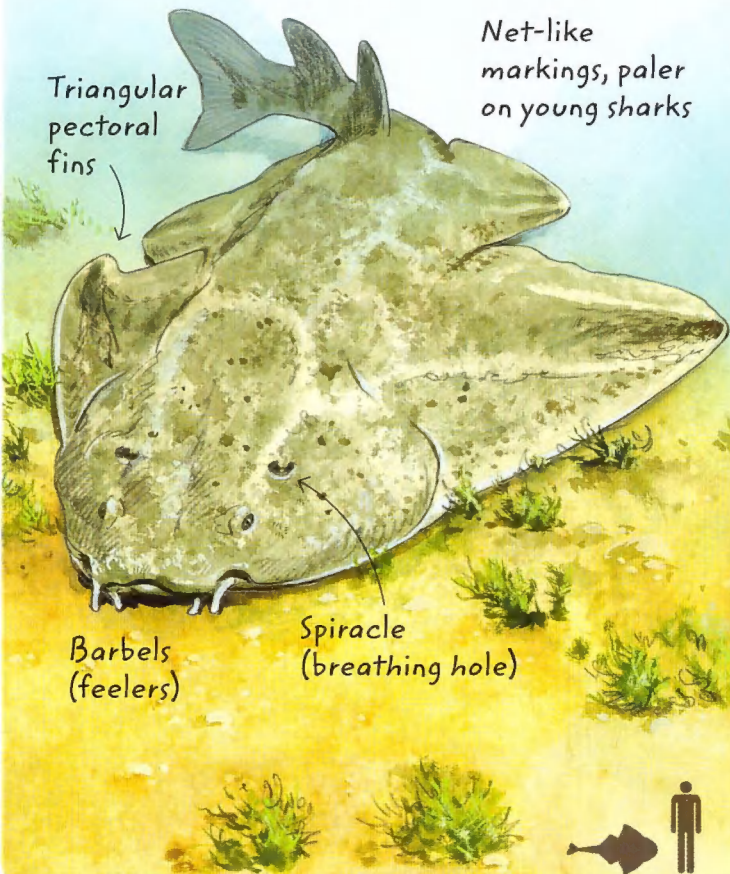
Two dorsal  
fins on tail

Net-like  
markings, paler  
on young sharks

Triangular  
pectoral  
fins

Barbels  
(feelers)

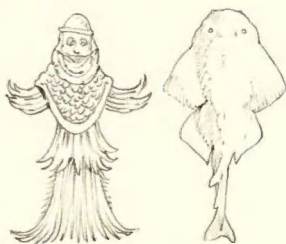
Spiracle  
(breathing hole)



- **Angel wings** Angelsharks are so named because of their wing-like pectoral fins.
- **Flatface** Angelsharks are the flattest of all sharks. They look very like rays (close relatives of sharks) but have mouths at the front of their snouts, while rays' are underneath their bodies.



- **Camouflage** These sharks lie in wait for prey beneath the seabed sand, the pale lines on their backs mimicking its ridges. When a victim comes into view, their mouth springs open like a trap.
- **Sea monk** A strange fish was caught off the Danish coast in 1550. It looked like a man dressed in brown robes, so people named it a sea monk. It may have been an angelshark – they're also called monkfish.



Could the sea monk have been an angelshark?

## Essential facts

**Where:** Northeast Atlantic Ocean and Mediterranean Sea

**Habitat:** mud or sand

**Prey:** flatfish, skate, shellfish

**Species:** *Squatina squatina*

**Length:** up to 1.8m (6ft)

**Weight:** up to 80kg (175lbs)

**Depth:** 5-150m (16-500ft)

**Extinction risk:** extremely high

**Family:** angelsharks



# Bluntnose sixgill

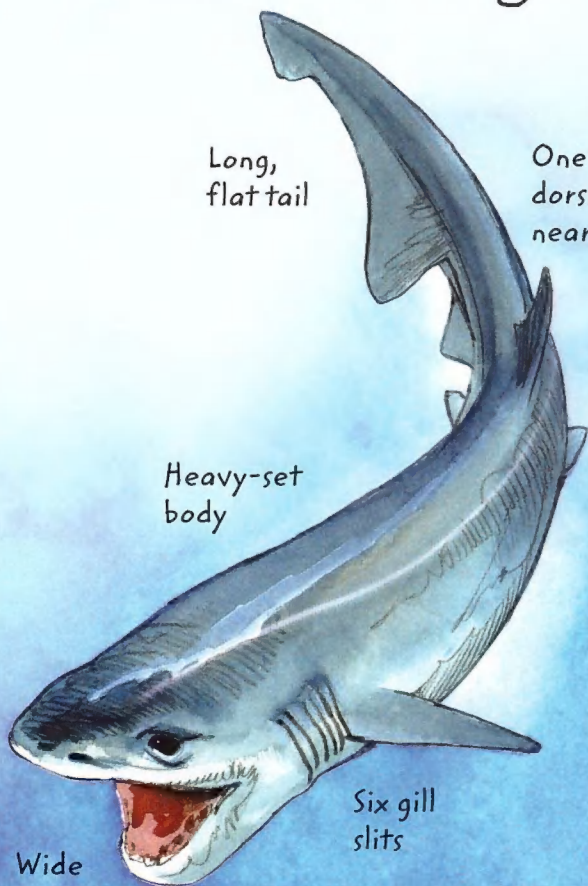
Long,  
flat tail

One  
dorsal fin,  
near tail

Heavy-set  
body

Six gill  
slits

Wide  
mouth

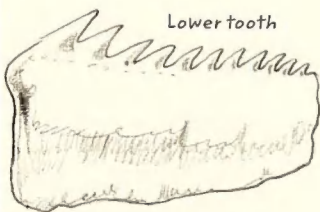


- **Bright eyes** Like many deep-sea sharks, sixgills have a reflective layer at the back of their eyes, like a cat's. It helps them to make the most of the dim light in the dingy depths.



Sixgills' eyes glow a bright blue-green when a light is shone on them.

- **Sensitive** Scientists who tried to keep sixgills in tanks found that even weak daylight upsets them. Their eyes seem to be so sensitive to light that what we see as a faint glow is to them a blinding glare.



Lower tooth

- **Teeth** A sixgill's lower teeth are shaped like a comb, or rooster's crest. It uses them to saw chunks of flesh from the bodies of large prey.
- **Big mamas** In many shark species, females are bigger than males. This is because, instead of laying eggs, they have lots of babies, so need room for large wombs. Sixgills may give birth to over 100 pups at a time.

## Essential facts

**Length:** up to 5.5m (18ft)

**Where:** worldwide, in patches

**Weight:** up to 590kg (1,300lbs)

**Habitat:** usually deep water

**Depth:** 500-1,875m (1,650-6,150ft)

**Prey:** squid, fish, sharks, seals

**Extinction risk:** medium

**Species:** *Hexanchus griseus*

**Family:** cow sharks

# Blue shark

Long upper  
tail lobe

Metallic blue  
back and sides

Long,  
pointed  
snout

Long,  
curved  
pectoral  
fins

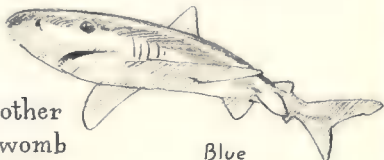
Big, white-  
ringed eyes

Slender body



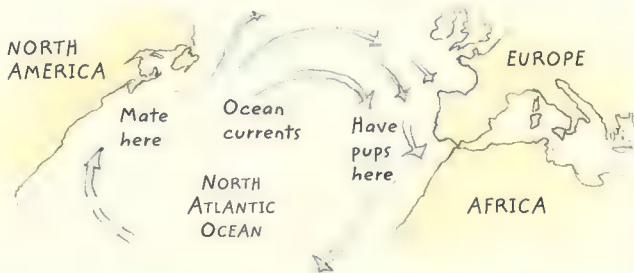
- **Global shark** These speedy, graceful sharks are the most widespread of all shark species, being found in all but the coldest seas. They live in large, single-sex groups, and spend a lot of their lives on the move.

- **Baby blues** Blue sharks give birth to more babies than most other sharks. One mother's womb was found to contain 135 pups.



Blue  
shark pup

- **Long trip** Male North Atlantic blue sharks live mainly in the west. The females join them to mate, then follow ocean currents to seas south of Spain, where they have their pups, before returning the next year – a 3,000km (1,800 miles) round trip.



### Essential facts

**Where:** cool to warm seas worldwide

**Habitat:** open ocean

**Prey:** fish, squid, octopus

**Species:** *Prionace glauca*

**Length:** up to 3.8m (12.5ft)

**Weight:** up to 205kg (450lbs)

**Depth:** 0-350m (0-1,150ft)

**Extinction risk:** medium

**Family:** requiem sharks



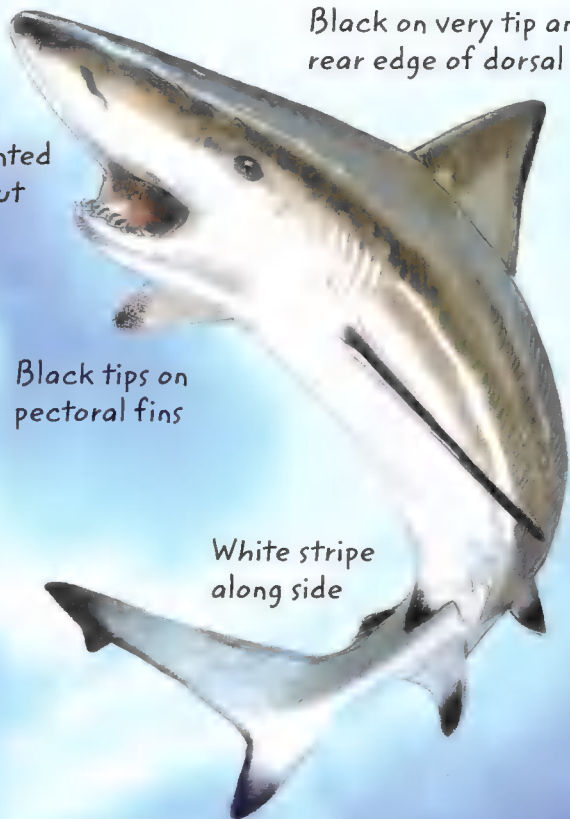
# Blacktip shark

Black on very tip and  
rear edge of dorsal fin

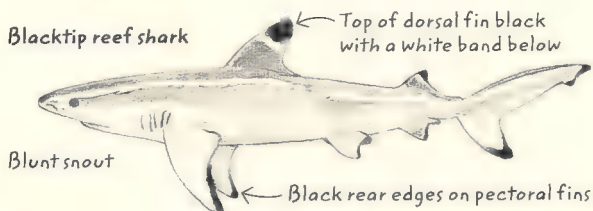
Pointed  
snout

Black tips on  
pectoral fins

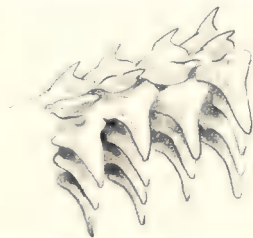
White stripe  
along side



- **Close cousins** These sharks are often confused with their relatives, blacktip reef sharks. The picture below shows the main differences.



- **Tidbit's secret** When a female blacktip named Tidbit died in a US aquarium, vets found she was pregnant, although she had never been kept with a male shark. Scientists later confirmed that her pup was conceived without a father. This type of birth happens, rarely, in some fish and reptiles, when fathers are scarce.
- **Teeth** Like all sharks, blacktips have several rows of teeth that grow all the time. As one tooth wears out, another one behind it is ready to start chomping.



## Essential facts

**Where:** warm seas worldwide

**Habitat:** coasts, bays, lagoons

**Prey:** fish, squid, shellfish

**Species:** *Carcharhinus limbatus*

**Length:** up to 2.6m (8.5ft)

**Weight:** up to 123kg (270lbs)

**Depth:** 0-30m (0-100ft)

**Extinction risk:** medium

**Family:** requiem sharks

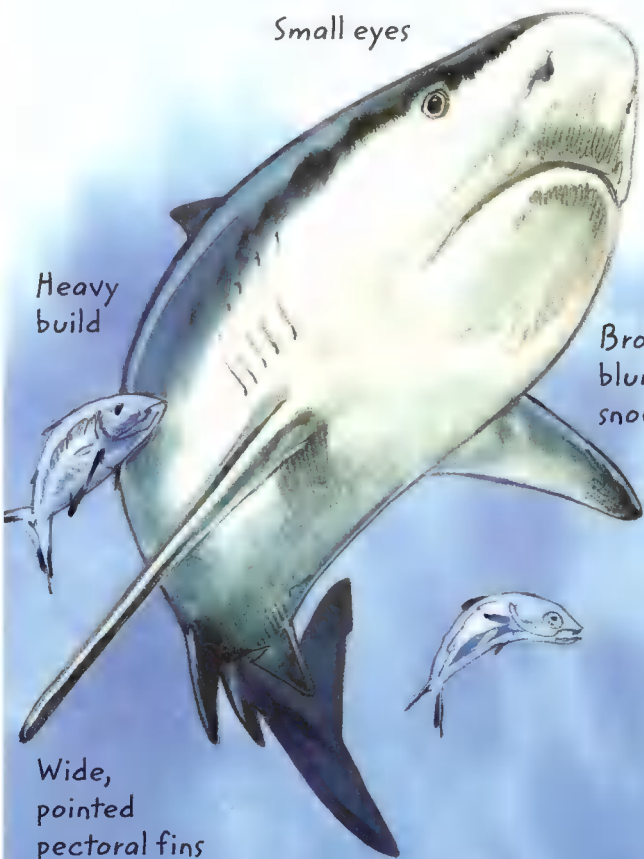
# Bull shark

Small eyes

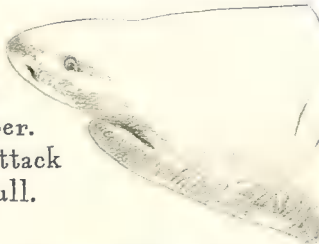
Heavy  
build

Broad,  
blunt  
snout

Wide,  
pointed  
pectoral fins



- **Raging bulls** Bull sharks are so named because of their broad snouts and short temper. They swim slowly but may attack suddenly, like a charging bull.
- **Bump 'n' bite** Bull sharks don't see well. They often head-butt prey before attacking, so electrical sensors in their snouts can tell them what they're touching.
- **Freshwater terror** These are the only big sharks that can survive both in the sea and in fresh water. They even live in Lake Nicaragua, the largest freshwater lake in Central America.



Bull sharks swim up the fast-flowing San Juan River to reach Lake Nicaragua.



- **Mistaken ID** Bull sharks are officially the third most dangerous shark, but experts think that they are behind many attacks blamed on great whites.

## Essential facts

**Where:** warm seas worldwide

**Habitat:** coasts, bays, rivers, lakes

**Prey:** fish, seals, sharks, birds

**Species:** *Carcharhinus leucas*

**Length:** up to 3.4m (11ft)

**Weight:** up to 317kg (700lbs)

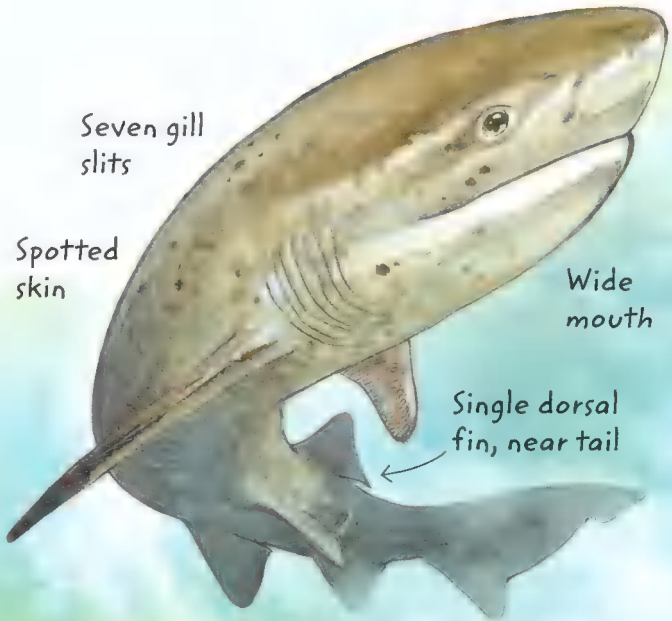
**Depth:** 1-152m (3-500ft)

**Extinction risk:** medium

**Family:** requiem sharks



# Broadnose sevengill



- **Old timers** Sharks are very ancient creatures. Cow sharks such as sevengills and sixgills are some of the oldest; more recent shark species have just five gill slits. Fossils of teeth identical to those of living cow sharks date back to dinosaur times.
- **Lunchtime** When biting large prey, a sevengill uses its jagged upper teeth to grip, then saws with its comb-like lower teeth, a little like using a knife and fork.
- **Coastal hunters** Unlike most of the stoutly built 'cow' sharks, sevengills always live in shallow seas. They are skilled predators, able to accelerate quickly from cruising speed to a lightning attack.
- **Joining forces**  
South African fishermen have seen sevengills team up to hunt Cape fur seals. They form a circle around the seal, blocking its escape.



### Essential facts

**Where:** worldwide, in patches

**Habitat:** coasts

**Prey:** sharks, rays, fish, seals, dolphins

**Species:** *Notorynchus cepedianus*

**Length:** up to 4m (13ft)

**Weight:** up to 107kg (236lbs)

**Depth:** 1-135m (3-440ft)

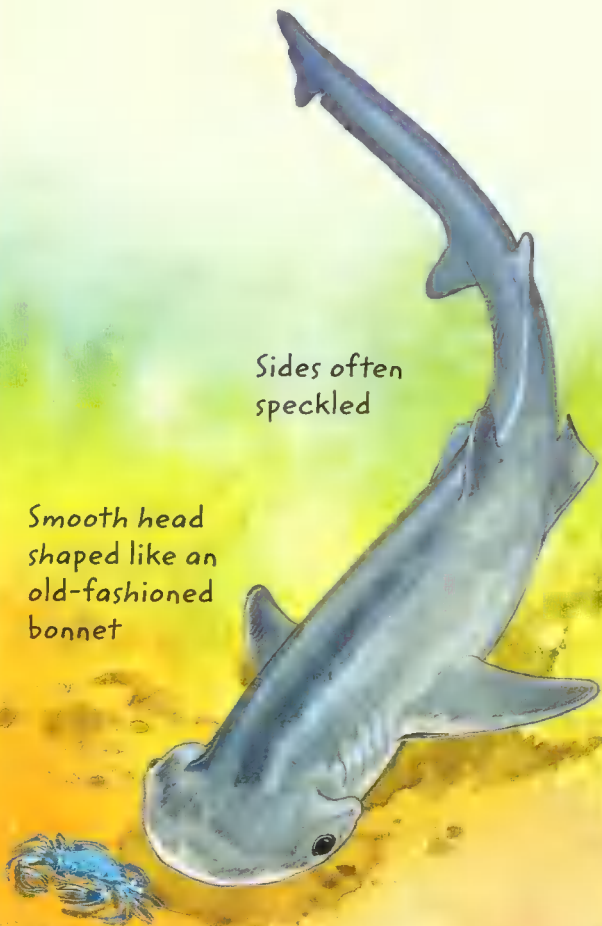
**Extinction risk:** unknown

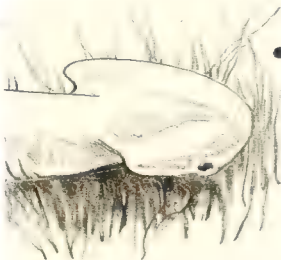
**Family:** cow sharks

# Bonnethead shark

Sides often  
speckled

Smooth head  
shaped like an  
old-fashioned  
bonnet

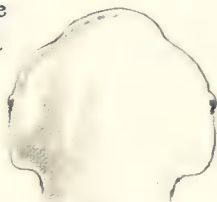




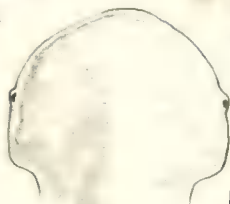
- **Grazers** Bonnethead sharks hunt blue crabs hiding in sea grass, but also swallow a lot of the grass, too. Some scientists think they do this on purpose, needing roughage to aid their digestion.

- **Mini-hammer** Bonnetheads are the smallest member of the hammerhead family, with the smallest 'hammer'.

- **Girls and boys** Bonnethead sharks are the only sharks where the females and males look different. The male's snout has a large bulge on the end, whereas the female's is rounded.



Male



Female

- **Shark society** Studies of these sharks have shown that they use a wide range of body language to show off their importance to each other. Signals include hunching their backs and puffing out their gills.

## Essential facts

**Where:** West Atlantic and East Pacific Oceans

**Habitat:** coasts, bays, reefs

**Prey:** crabs, octopuses, small fish

**Species:** *Sphyrna tiburo*

**Length:** up to 1.5m (5ft)

**Weight:** up to 11kg (24lbs)

**Depth:** 0-80m (0-160ft)

**Extinction risk:** low

**Family:** hammerheads



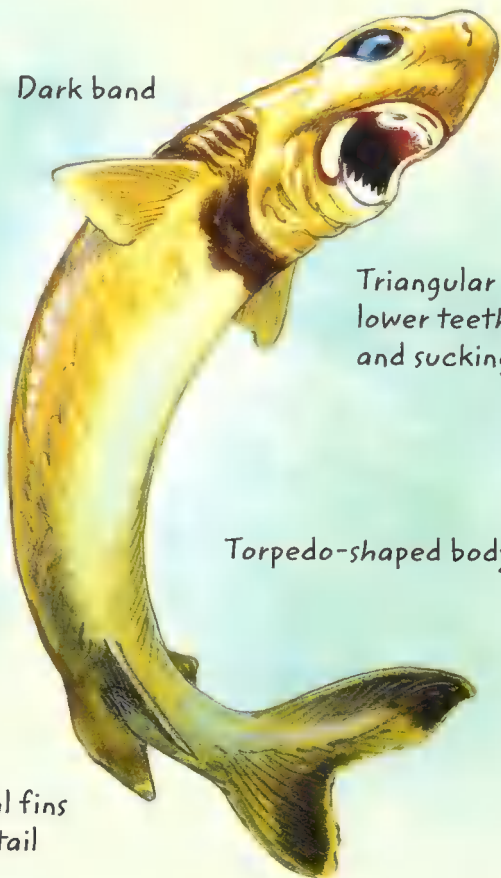
# Cookiecutter shark

Dark band

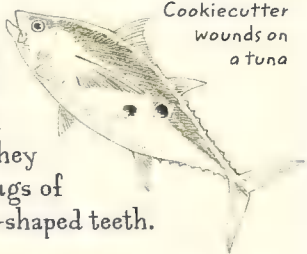
Triangular  
lower teeth  
and sucking lips

Torpedo-shaped body

Dorsal fins  
near tail



- **Cookie monsters** At night, these little sharks rise to the surface from the deep to feed upon large prey. Latching on with their lips like leeches, they saw out neat, cone-shaped plugs of flesh with their cookiecutter-shaped teeth.



Cookiecutter wounds on a tuna

- **Cigar sharks** Because of their shape and size, and the dark band around their gills, cookiecutter sharks are also called cigar sharks.
- **Glow in the shark** A cookiecutter shark glows in the dark so brightly that you could read by its light. Larger fish and squid see what looks like an easy meal, before realizing that they are the ones on the menu.
- **Sabotage** Cookiecutters have been known to bite chunks out of the rubber domes that protect the sonar scanning equipment on nuclear submarines, making them useless.



Cookiecutter glowing in the dark

## Essential facts

**Where:** Atlantic, Indian and Pacific Oceans

**Habitat:** warm open seas

**Prey:** large fish, dolphins, whales

**Species:** *Isistius brasiliensis*

**Length:** up to 50cm (20in)

**Weight:** unrecorded

**Depth:** 85-3,500m (280-11,480ft)

**Extinction risk:** low

**Family:** kitefin sharks

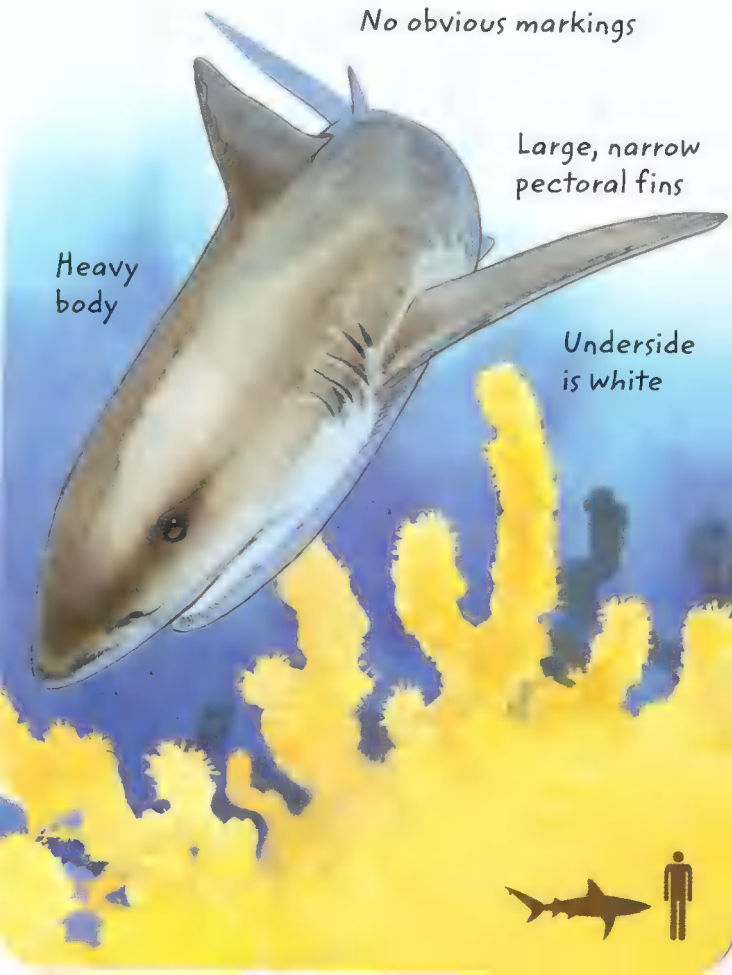
# Caribbean reef shark

No obvious markings

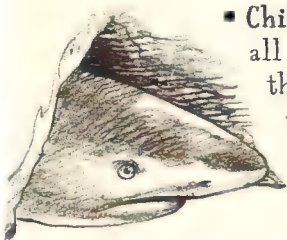
Large, narrow  
pectoral fins

Heavy  
body

Underside  
is white



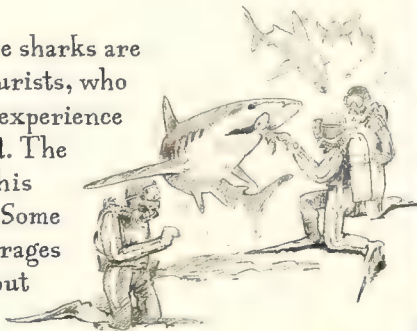
- **Reef regular** This is the most common shark seen around coral reefs in the Caribbean Sea.



- **Chill time** Many sharks must swim all the time to move water through their gills, but this one can pump water through with its throat muscles. In certain underwater caves with oxygen-rich water, it can lie dozing for hours.

- **Thick skin** Male Caribbean reef sharks, like many sharks, often bite the females during mating. The females have extra-thick skin to protect them.

- **Shark feeding** These sharks are very popular with tourists, who dive (with guides) to experience feeding them by hand. The sharks don't mind this regular food supply. Some people think it encourages them to bite people, but this is very rare.



## Essential facts

**Where:** West Atlantic Ocean and Caribbean Sea

**Habitat:** reefs, river deltas

**Prey:** fish, rays

**Species:** *Carcharhinus perezi*

**Length:** up to 2.9m (9.5ft)

**Weight:** up to 70kg (154lbs)

**Depth:** 1-65m (3-213ft)

**Extinction risk:** medium

**Family:** requiem sharks

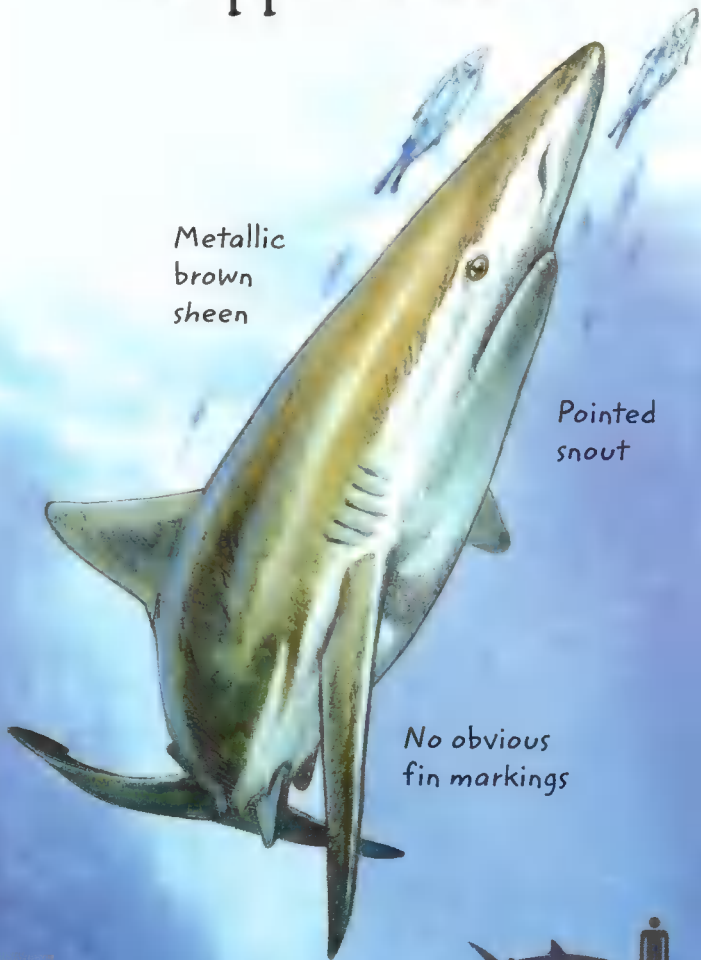


# Copper shark

Metallic  
brown  
sheen

Pointed  
snout

No obvious  
fin markings



- **Copper tones** This shark's metallic brown sheen sets it apart from its many similar-looking relatives in the requiem shark family.

- **Narrowtooth** Also called a narrowtooth shark, it has thin, hooked upper teeth.



- **Sardine run** Nearly every June and July, millions of sardines swim up Africa's southeast coast seeking food. This 'great sardine run' is trailed by a hungry army of copper sharks, along with dolphins, seabirds, and other sharks.

Copper sharks feasting on sardines

- **Whalers** These sharks are also known as bronze whalers. The name was given by 19th-century whale hunters, who often saw them gathering around the dead whales hanging over their boats.

## Essential facts

**Length:** up to 2.9m (9.5ft)

**Where:** cool to warm seas worldwide

**Weight:** up to 305kg (670lbs)

**Habitat:** coasts and shallow seas

**Depth:** 0-360m (0-1,180ft)

**Prey:** fish, small sharks, rays, squid

**Extinction risk:** medium

**Species:** *Carcharhinus brachyurus*

**Family:** requiem sharks

# Dwarf lanternshark

Spines in front  
of dorsal fins



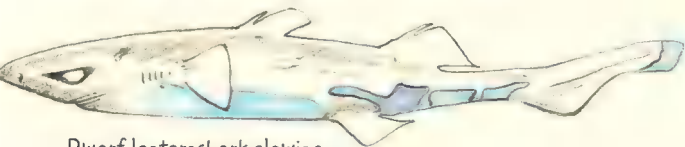
Back dorsal  
fin larger  
than  
front



Dark patches on  
underside glow  
in the dark



- **Record-breaker** This is the smallest known shark. Females measure up to 21cm (8.25in) but adult males can be as little as 16cm (6.25in) from nose to tail.
- **Glow shark** Lantern sharks are named because of their ability to make their bellies glow at will. This helps them to appear invisible to hungry fish below by blending in with sunlit water above.
- **Luminous lure** In pitch-black depths, this shark may switch on its lights to attract small prey.



Dwarf lanternshark glowing

- **Small fry** To avoid becoming a bite-sized snack, this miniature shark lives mainly in deep water, where darkness helps it to hide.
- **Perry's lanternshark** The last part of this shark's scientific name, *perryi*, is a tribute to Dr. Perry Gilbert, an American shark expert. He invented a chemical to knock out sharks so they can be studied.

## Essential facts

**Where:** Caribbean Sea (Colombia)

**Habitat:** deep water offshore

**Prey:** tiny fish and shellfish

**Species:** *Etmopterus perryi*

**Length:** up to 21cm (8.25in)

**Weight:** unrecorded

**Depth:** 280-375m (930-1,230ft)

**Extinction risk:** unknown

**Family:** lanternsharks

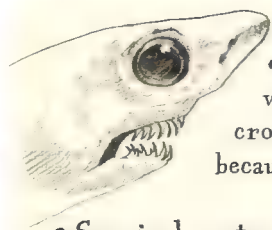
# Crocodile shark

Huge eyes

Small  
pectoral  
fins

Long, thin,  
jutting  
teeth





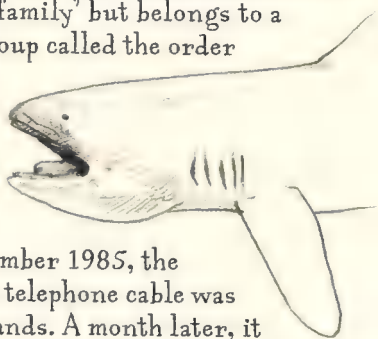
• **Crocodile?** These little sharks were first named *mizuwani* ('water crocodiles') by Japanese fishermen, because they snap viciously when caught.

- **Survival mystery** Baby crocodile sharks hatch out of eggs while still inside their mother. The first to do so grow strong by eating unhatched eggs. Somehow, two pups always survive in each of the mother's two wombs.

- **Extended family** The crocodile shark is the only member of its shark 'family' but belongs to a larger, very varied group called the order of mackerel sharks.



Crocodile and megamouth sharks are 'cousins'.



- **Crossed wire** In September 1985, the world's first undersea telephone cable was laid, in the Canary Islands. A month later, it failed. Some crocodile sharks, which (like all sharks) can sense the natural electric field of their prey, had chomped through the cable by mistake.

## Essential facts

**Where:** warm seas worldwide

**Habitat:** open ocean

**Prey:** fish, squid, shrimp

**Species:** *Pseudocarcharias kamoharai*

**Length:** up to 1.1m (3.6ft)

**Weight:** up to 6kg (13lbs)

**Depth:** 0-590m (0-1,935ft)

**Extinction risk:** medium

**Family:** crocodile sharks



# Elephant shark

Venomous spine,  
used to fend  
off enemies

Tapering  
tail

Wing-like  
pectoral fins

Smooth  
skin

Big  
head

Single gill slits

Large, high-set eyes

Snout like an  
elephant's trunk



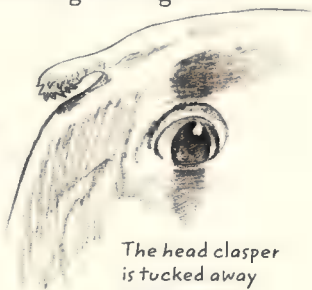


- **Trunk** Elephant sharks use their trunk-like snouts to probe for shellfish in the seafloor mud. They crush their shells with plate-like teeth.

- **Chimaeras** Despite their name, these strange-looking fish are not true sharks but related cartilaginous fish called chimaeras. (Pronounced 'ky-meeras'.)

- **Sensitive snot** An elephant shark's face is lined with a network of mucus-filled 'canals.' These detect motion in the water. Our ears have similar fluid-filled tubes to sense sound moving through air.

- **Claspers** Male sharks and chimaeras have fin parts called claspers used to grasp females during mating. An elephant shark also has a thorny, thumb-like clasper on its head for extra grip.



The head clasper is tucked away when not in use.

## Essential facts

**Where:** South Pacific Ocean  
(Australia, New Zealand)

**Habitat:** muddy seafloor

**Prey:** shellfish, jellyfish

**Species:** *Callorhinchus milii*

**Length:** up to 1.25m (4ft)

**Weight:** up to 3.5kg (7.7lbs)

**Depth:** 0-227m (0-745ft)

**Extinction risk:** low

**Family:** elephant chimaeras

# Frilled shark

Many three-  
pointed  
teeth

Lizard-like  
head with large,  
gaping mouth

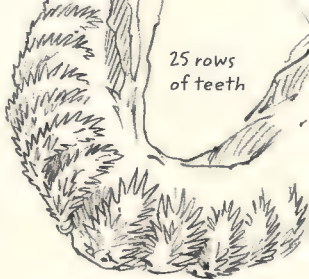
Six frilly  
gill slits

Eel-like body

Lower fins  
towards tail



- **Frills and gills** This snake-like deep-sea shark is very rare. It is so named because of its large, crinkly gill slits, the first of which cuts across its entire throat.



A single tooth



- **Pronged teeth** A frilled shark's mouth contains about 300 sharp, curved, three-pronged teeth. They are thought to be perfect for hooking the soft bodies of nippy, deep-sea squid.

- **Long pregnancy** Frilled sharks have the longest pregnancies of any animal with a backbone. A litter of six pups can spend up to  $3\frac{1}{2}$  years developing in the womb.
- **Deep mystery** Little is known of the habits of these real-life sea serpents, owing to their rarity and deep-sea home. They have an oil-filled liver, suggesting to some scientists that they may float in mid-water, darting forward at prey like a snake.

## Essential facts

**Length:** up to 2m (6.6ft)

**Where:** worldwide, in patches

**Weight:** unrecorded

**Habitat:** deep water

**Depth:** 50-1,500m (160-5,000ft)

**Prey:** deep-sea squid and fish

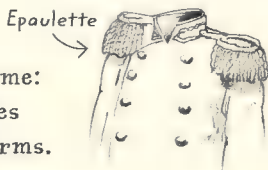
**Extinction risk:** medium

**Species:** *Chlamydoselachus anguineus* **Family:** frilled sharks

# Epaulette shark



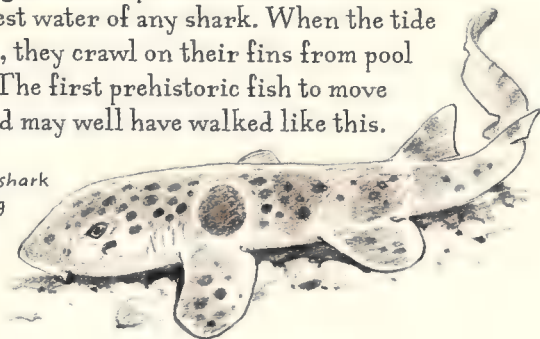
- **Patches** Its black 'shoulder patches' give this shark its name: epaulettes are shoulder patches on ceremonial military uniforms.



- **Coral creepers** These small sharks are common in Australia's Great Barrier Reef. Their slender bodies slip easily through narrow gaps in the coral.

- **Walking sharks** Epaulette sharks live in the shallowest water of any shark. When the tide goes out, they crawl on their fins from pool to pool. The first prehistoric fish to move onto land may well have walked like this.

Epaulette shark  
clambering  
across  
a beach



- **Airless** Epaulette sharks often get trapped for long periods in tide pools with other sea creatures, sharing the oxygen in the water. They survive on low oxygen by slowing down their breathing and heartbeat.

## Essential facts

**Length:** up to 1.1m (3.6ft)

**Where:** Southwest Pacific Ocean

**Weight:** unrecorded

**Habitat:** coral in shallow water

**Depth:** 0-50km (0-165ft)

**Prey:** worms, shellfish, small fish

**Extinction risk:** low

**Species:** *Hemiscyllium ocellatum*

**Family:** bamboo sharks



# Goblin shark

Very long,  
paddle-like  
snout

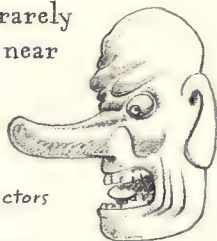
Jaws  
can shoot  
forward

Pale pink  
skin



- **Nosy goblins** Goblin sharks are rarely seen. They were first discovered near Japan in 1897. They are named after the *tengu*, a long-nosed goblin from Japanese myths.

*A tengu mask worn by Japanese actors*



- **Fish detector** A goblin shark's long snout is packed with sensors to detect natural electrical impulses in its prey's bodies, allowing it to hunt them in the murky depths.
- **Surprise attack** This shark has a soft, flabby body and probably swims slowly, but it also has a secret weapon. On finding its prey, its jaws suddenly shoot forward, trapping them in its long, curved teeth.



Jaws closed



Jaws extended

- **In the pink** Goblin sharks are pink because their outermost layer of skin is transparent, letting many tiny blood vessels underneath show through.

## Essential facts

**Length:** up to 5m (16.4ft)

**Where:** worldwide, in patches

**Weight:** up to 160kg (350lbs)

**Habitat:** deep water

**Depth:** 95-1,300m (310-4,265ft)

**Prey:** fish, squid, crabs, shrimp

**Extinction risk:** low

**Species:** *Mitsukurina owstonii*

**Family:** goblin sharks

# Great hammerhead

Very tall, curved  
front dorsal fin



Nostril

Wide, thick hammer  
head with near-  
straight front edge

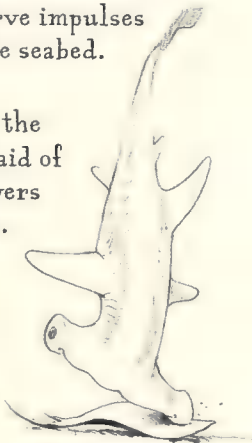




- **Handy hammer** A great hammerhead's widely spaced nostrils let it sniff a large area rapidly, and precisely target its prey.
- **Sixth sense** Its broad hammer head is also packed with stubble-like sensors to detect electrical nerve impulses from fish hiding in the seabed.

- **Fearless** Great hammerheads are the largest hammerhead sharks. Unafraid of people, they could be a threat to divers but, luckily, usually ignore them.

- **Stingray supper** Great hammerheads hunt stingrays, and seem immune to their venomous barbs. One caught near Florida had 96 barbs stuck in its mouth and throat.



A great hammerhead pinning down a stingray

- **No escape** After finding a ray, great hammerheads have been seen to pin it down with one end of their hammer, and bite off its fins to stop it from escaping.

## Essential facts

**Length:** up to 6.1m (20ft)

**Where:** warm seas worldwide

**Weight:** up to 450kg (990lbs)

**Habitat:** coasts, reefs, offshore

**Depth:** 1-300m (3-985ft)

**Prey:** rays, big fish, crabs, squid

**Extinction risk:** very high

**Species:** *Sphyrna mokarran*

**Family:** hammerheads

# Great white shark

Small black eyes

Huge  
triangular  
teeth

Fin tips black  
underneath

Great whites may  
leap out of the  
water in pursuit  
of their prey.



- **Great white hunter** The great white shark is the biggest meat-eating fish. Even its newborn pups can be over 1.5m (5ft) long.

- **Mighty bite** A great white's jaws are not connected to its skull. As it bites, they thrust forward and down, locking onto its prey with incredible and deadly force.

- **Movie myth** Moviemakers have given great whites a bad reputation as maneaters. It's true that they kill more people than other sharks, but still only about two a year, worldwide. Dogs kill about 30 people a year in the USA alone.



As a great white bites, it protects its eyes by rolling them backwards.

- **Taste test** Great whites don't hunt people – they only bite them out of curiosity, and usually release them at once, realizing they won't make much of a meal. But being gently nibbled by a great white can be fatal.

## Essential facts

**Length:** up to 6.1m (20ft)

**Where:** cool to warm seas worldwide

**Weight:** up to 3,400kg (7,500lbs)

**Habitat:** coasts to open ocean

**Depth:** 0-1,300m (0-4,265ft)

**Prey:** fish, seals, dolphins, birds

**Extinction risk:** high

**Species:** *Carcharodon carcharias*

**Family:** mackerel sharks



# Greenland shark

Wide,  
blunt tail

Skin is mottled  
and blotchy

Squid



Massive,  
heavy  
body

Very small,  
green eyes



- **Ice shark** This huge shark lives in the freezing seas around Greenland, further north than any other.
- **Not so sleepy?** These 'sleeper' sharks are sluggish yet reindeer have been found in their stomachs. They may scavenge drowned deer, or attack swimming ones.

Parasite in  
Greenland  
shark's eye

- **Eye riders** Greenland sharks usually have a worm-like creature, related to shrimp, feeding on each eye. This damages their vision, but they live with it, finding their way around by smell.



- **Hákarl** The flesh of Greenland sharks is poisonous and stinks like urine. But in Iceland it is fermented and made into a delicacy called *hákarl*. It is said that you need a strong stomach to eat it.

- **Toilet shark** In Inuit legends this shark is said to smell so bad because it lives in the toilet of their sea goddess, known as Arnakuagsak or Sedna.

A carving  
of Sedna



## Essential facts

**Where:** Arctic and North Atlantic Oceans

**Habitat:** coasts to offshore

**Prey:** fish, seals, dead mammals

**Species:** *Somniosus microcephalus*

**Length:** up to 7.3m (24ft)

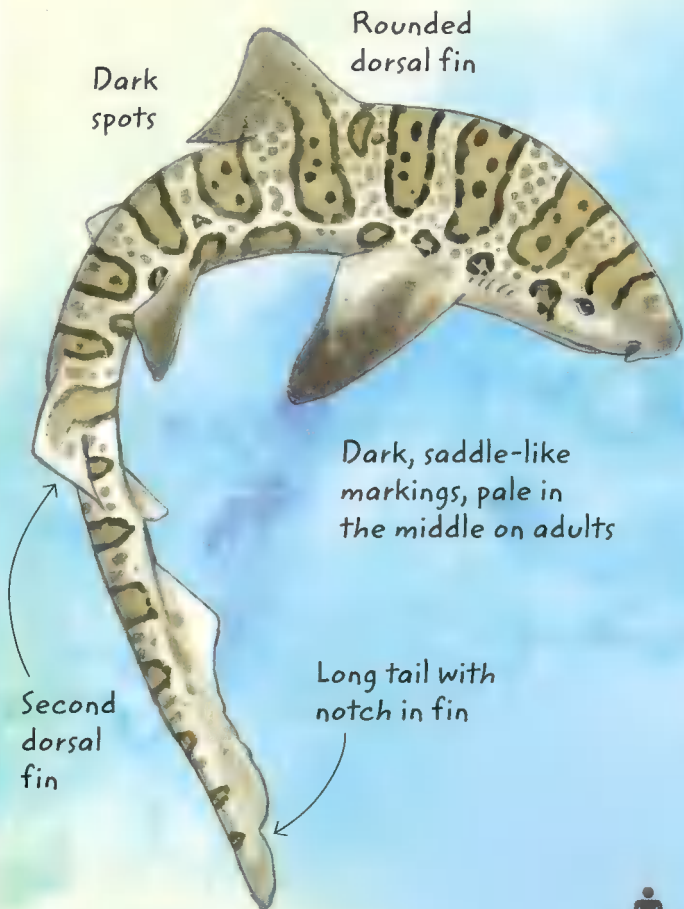
**Weight:** up to 1,100kg (2,500lbs)

**Depth:** 180-1,200m (600-4,000ft)

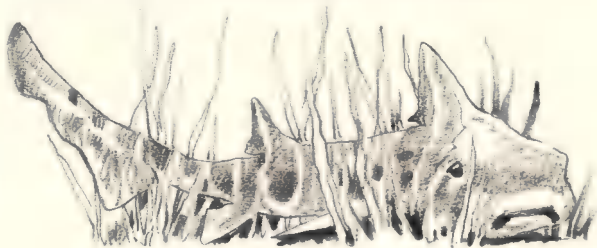
**Extinction risk:** medium

**Family:** sleeper sharks

# Leopard shark



- **Camouflage** Like the big cat that gives it its name, a leopard shark's patterned body helps to break up its outline, making it hard for predators and prey to see it on the rocky, weedy seabed.



- **Suck and chomp** This shark feeds by forming its muscular lips into a tube to suck up its prey, while it rams its jaws forward to bite it with hook-like teeth.
- **Golden eye** Leopard sharks have golden eyes. These reflect back light, helping them see in murky water, but also filter out glaring sunlight in shallow seas.
- **Siphon snack** If these sharks see the meaty siphon (breathing tube) of a clam sticking up out of the mud where it's burrowed, they'll nip it off in a flash, and not even bother to dig the shellfish out.

#### **Essential facts**

**Where:** Pacific coast of Western USA

**Habitat:** coasts to offshore

**Prey:** seabed creatures

**Species:** *Triakis semifasciata*

**Length:** up to 1.8m (6ft)

**Weight:** up to 18kg (40lbs)

**Depth:** 0-91m (0-300ft)

**Extinction risk:** low

**Family:** houndsharks

# Lemon shark

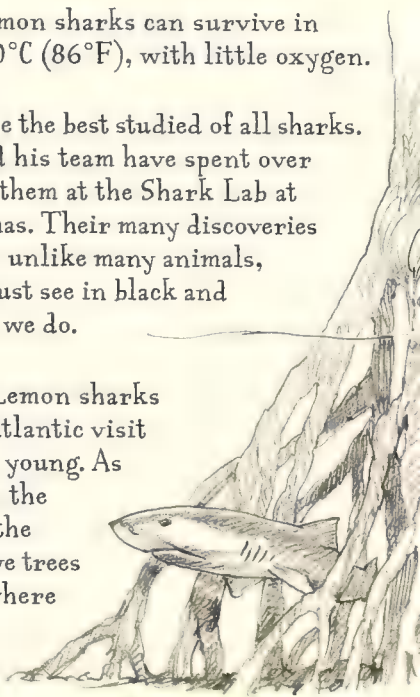
Yellowish-brown  
back

Short  
snout

Stocky  
body



- **Yellow fellows** These sharks get their name from the yellowish shade of their skin. They live mainly around the coasts of Central America.
- **Some like it hot** Lemon sharks can survive in water as warm as 30°C (86°F), with little oxygen.
- **Shark Lab** These are the best studied of all sharks. Dr. Sam Gruber and his team have spent over 20 years observing them at the Shark Lab at Bimini in the Bahamas. Their many discoveries include the fact that, unlike many animals, lemon sharks don't just see in black and white, but as well as we do.
- **Mangrove refuge** Lemon sharks from the Western Atlantic visit Bimini to have their young. As soon as they're born, the pups vanish among the roots of the mangrove trees around the lagoon, where they can hide from big, hungry sharks.



### Essential facts

**Where:** East Pacific, West Atlantic

**Habitat:** warm coasts, bays, lagoons

**Prey:** fish, shellfish

**Species:** *Negaprion brevirostris*

**Length:** up to 3.4m (11ft)

**Weight:** up to 184kg (405lbs)

**Depth:** 0-92m (0-300ft)

**Extinction risk:** medium

**Family:** requiem sharks



# Horn shark

Two dorsal fins,  
with spines

Spotted body

Squarish,  
bull-like  
head

Blunt, pig-  
like snout

Paddle-like  
pectoral fins



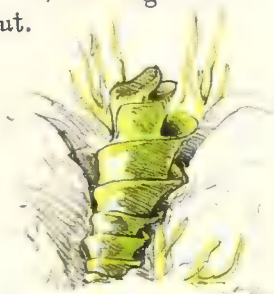
Nostril



Horn sharks' teeth are often stained purple by eating sea urchins.

- **Urchin-crusher** Horn sharks have big nostrils to sniff out their prey. They especially like purple sea urchins, crunching them with their large back teeth.

- **Night life** These chubby little sharks live in undersea forests of giant kelp seaweed around California. By day they rest in the rocks, coming out at night to feed on small seafloor creatures.
- **Don't eat me** A horn shark's spines keep it from being swallowed by bigger fish, hurting their throats so that they spit it out.
- **Laid with care** Fish are not known for taking care of their eggs, but horn sharks have been seen wedging their unusual, spiral-shaped eggs into crevices out of harm's way.



Horn sharks' green eggs blend in among the seaweed

## Essential facts

**Where:** East Pacific Ocean  
(USA, Mexico)

**Habitat:** shallow coastal waters

**Prey:** sea urchins, starfish, crabs

**Species:** *Heterodontus francisci*

**Length:** up to 1.2m (4ft)

**Weight:** up to 10kg (22lbs)

**Depth:** 0-150m (0-500ft)

**Extinction risk:** unknown

**Family:** bullhead sharks

# Megamouth shark

Flabby  
body

Jaw has spots  
underneath

Very short, rounded  
snout with huge mouth



- **Seldom seen** This large, unusual shark wasn't discovered until 1976, and is so rare that every one spotted is given a number. Megamouth 50 was found off the island of Taiwan in 2010.

- **Living proof** Just one living megamouth has been studied by scientists. Tracked for two days by an electronic tag on its fin, the shark moved up and down in the ocean. It was following the great clouds of plankton that it strains out of the sea to eat.

- **Silver lining** A megamouth's throat is silvery inside. This may help to attract plankton into its waiting mouth.

- **Spy secrets** Megamouth 1 was discovered on a secret US Navy mission near Hawaii. It choked trying to eat a parachute that was being used to slow the drift of a sonar cable, floated to detect Russian submarines.



Megamouth 1 was  
5m (16ft) long.

## Essential facts

**Length:** up to 5.5m (18ft)

**Where:** warm seas worldwide

**Weight:** up to 870kg (1,918lbs)

**Habitat:** coasts to open ocean

**Depth:** 5-166m (16-545ft)

**Prey:** plankton (tiny sea creatures)

**Extinction risk:** unknown

**Species:** *Megachasma pelagios*

**Family:** megamouth sharks

# Longnose sawshark



Two dorsal fins

A detailed illustration of a longnose sawshark, showing its elongated body, long snout, and two dorsal fins. The shark is depicted in a swimming posture, with its head angled downwards. The background is a soft, light green and yellow gradient, suggesting an underwater environment. The shark's body is yellowish-brown with dark spots, and its snout is long and pointed, covered in small teeth. The two dorsal fins are prominent, with the first being larger and more triangular, and the second being smaller and more rounded. The pectoral fins are also visible, and the overall shape is streamlined for movement in the water.

Long, sensitive  
barbels (feelers)

Long, saw-like  
snout studded  
with teeth



- **Saw dogs** These sharks live only near southern Australia, where they're often known as saw dogs.
- **Spot the difference** Sawsharks can be told apart from sawfish, a group of rays that look similar, by the sharks' long barbels and teeth of differing size.
- **Newborns** When a mother sawshark gives birth to her pups, their saw-teeth are folded back, so as not to hurt her.
- **Hunting** Sawsharks hunt for little creatures hiding in the sandy seabed. They detect them with their long barbels, then side-swipe them with their toothy saw.



A sawshark feels for hidden fish with its long barbels.



The fish tries to flee but the shark stabs it with its teeth.

## Essential facts

**Where:** Indian Ocean  
(Southern Australia)

**Habitat:** sandy bottoms

**Prey:** small fish, shellfish

**Species:** *Pristiophorus cirratus*

**Length:** up to 1.4m (4.6ft)

**Weight:** unrecorded

**Depth:** 0–311m (0–1,020ft)

**Extinction risk:** low

**Family:** sawsharks

# Night shark

Big, green eyes

Dorsal fin with  
free rear tip

Long,  
pointed  
snout

Short  
gill slits

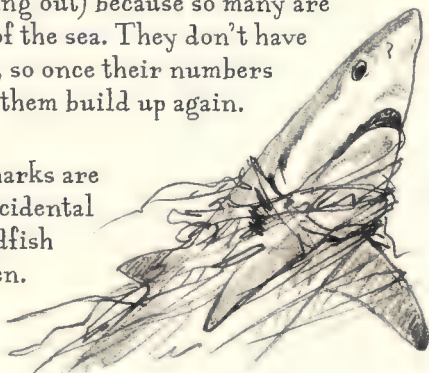
Small  
pectoral  
fins





- **Sharks in the dark** Night sharks are so named because they are mostly caught by fishermen at night, which is when they swim up to the surface to feed.
- **Night school** These sharks hunt together in schools, feeding on small fish such as mackerel and mullet.
- **Sharks in trouble** Night sharks are in danger of extinction (dying out) because so many are being fished out of the sea. They don't have babies very often, so once their numbers fall, it's hard for them build up again.
- **Bycatch** These sharks are often caught as accidental 'bycatch' by swordfish and tuna fishermen.

A night shark  
tangled up in  
a fishing net



- **Keep in line** Night sharks give birth to live young, rather than laying eggs. Inside their mother's womb, the pups face the same direction she does.

## Essential facts

**Where:** Atlantic Ocean

**Habitat:** warm, deep waters

**Prey:** small fish, squid, shrimp

**Species:** *Carcharhinus signatus*

**Length:** up to 2.8m (9ft)

**Weight:** up to 77kg (170lbs)

**Depth:** 0-600m (0-2,000ft)

**Extinction risk:** high

**Family:** requiem sharks

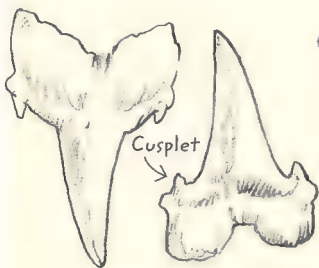
# Porbeagle shark

White  
rear tip on  
dorsal fin

Tiny  
second  
dorsal fin

Crescent-  
shaped tail



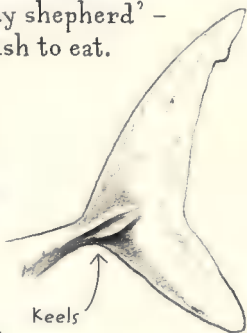


- **Fish fiends** Porbeagles are fast, dogged fish hunters, closely related to salmon sharks. Their teeth have mini-teeth called cusplets at the base, which help them hold on to struggling fish.

- **Playtime** Fish are rarely thought of as curious and playful, but porbeagles seem to be. They've been seen rolling around in seaweed at the sea's surface, wrapping its leathery fronds around themselves.

- **Shepherds** The name porbeagle is thought to come from Cornish words meaning 'bay shepherd' – perhaps because they round up fish to eat.

- **Double keels** Many mackerel sharks have ridges called keels on their tails that cut through water, making swimming more efficient. Porbeagles and salmon sharks (also called Pacific porbeagles) are unique in having double keels.



## Essential facts

**Where:** Atlantic, South Pacific and South Indian Oceans

**Habitat:** offshore in cold seas

**Prey:** fish, small sharks, squid

**Species:** *Lamna nasus*

**Length:** up to 3m (10ft)

**Weight:** up to 230kg (507lbs)

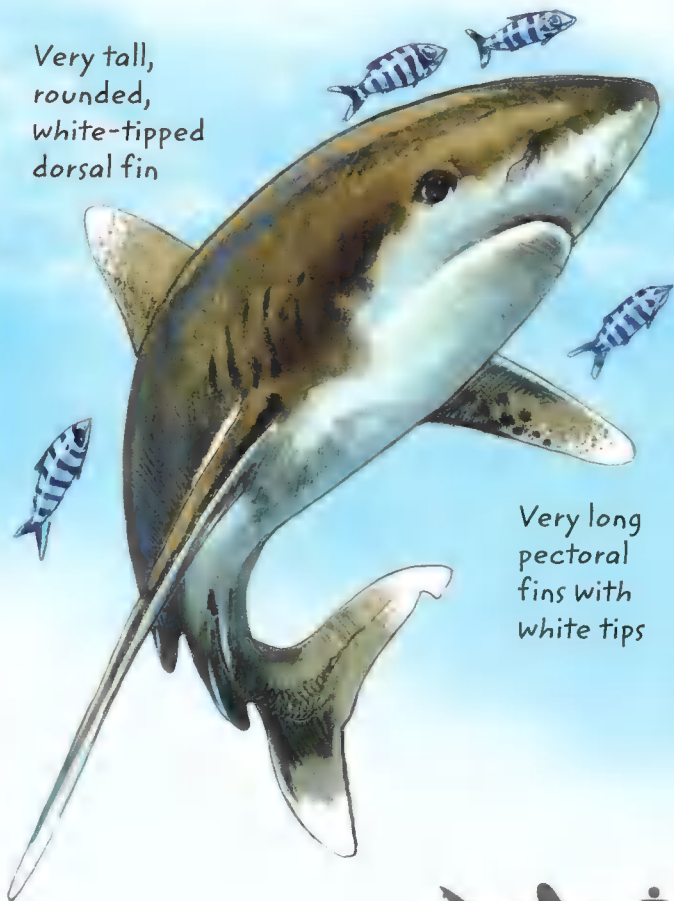
**Depth:** 0–700m (2,300ft)

**Extinction risk:** high

**Family:** mackerel sharks

# Oceanic whitetip

Very tall,  
rounded,  
white-tipped  
dorsal fin



Very long  
pectoral  
fins with  
white tips



- **Beware!** Oceanic whitetips are big, fearless hunters and scavengers. They are very curious, and often the first sharks to show up at shipwrecks, where their boldness makes them a real danger to survivors.

- **Wartime tragedy** One of the worst shark attacks ever was on July 30, 1945, after the US Navy cruiser *USS Indianapolis* was sunk in the Philippine Sea. For days no rescue came to the 880 survivors left floating in the sea. Most died of thirst and cold, and many were eaten by oceanic whitetips.



- **In danger** Once numerous, so many of these sharks have been caught by fishermen, they may die out.



- **Eyelids** Like all requiem sharks (and hammerheads) oceanic whitetips have an eyelid that closes from the bottom, to shield their eyes when they attack their prey.

### Essential facts

**Where:** warm seas worldwide

**Habitat:** open ocean

**Prey:** fish, squid, rays, birds, turtles

**Species:** *Carcharhinus longimanus*

**Length:** up to 4m (13ft)

**Weight:** up to 167kg (368lbs)

**Depth:** 0-184m (0-604ft)

**Extinction risk:** high

**Family:** requiem sharks

# Nurse shark

Long tail

Rounded  
dorsal fins

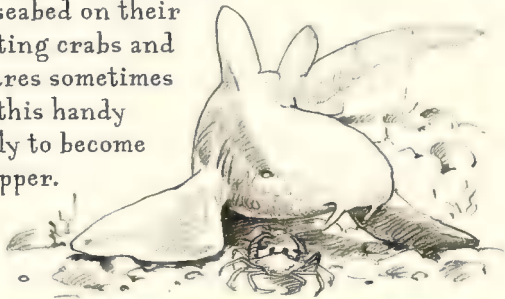
Barbels  
(feelers)

Very  
small eyes





- **Teeth** This shark has fan-shaped teeth, used for crushing shellfish, which it sucks up with a powerful slurp.
- **Nurse?** Nurse sharks give birth to live young, rather than laying eggs, but they don't nurse them. Their name is thought to come from an old word 'huss' meaning dogfish. Over time, 'an huss' changed to 'a nuss' and then to 'a nurse'.
- **Suntan** When nurse sharks move into shallow, tropical waters at mating time, they get a suntan, their skin turning chocolate brown.
- **No shelter** Nurse sharks often rest on the seabed on their fins. Unwitting crabs and other creatures sometimes hide under this handy 'shelter', only to become a shark's supper.



## Essential facts

**Where:** East Pacific and Central Atlantic Oceans

**Habitat:** near islands, coral reefs

**Prey:** shellfish, fish, rays

**Species:** *Ginglymostoma cirratum*

**Length:** up to 3m (10ft)

**Weight:** up to 110kg (240lbs)

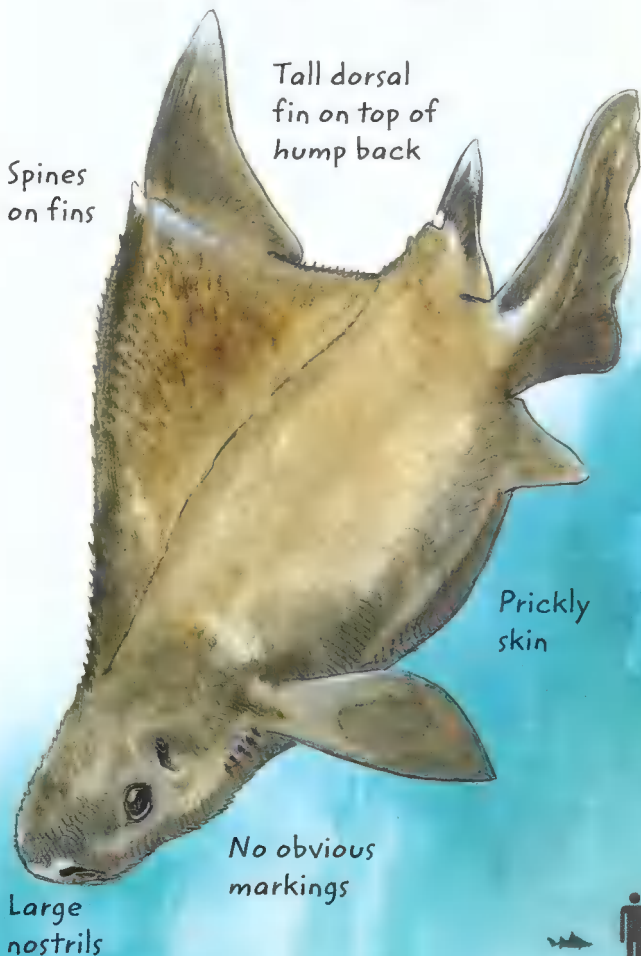
**Depth:** 0-130m (0-425ft)

**Extinction risk:** unknown

**Family:** nurse sharks



# Prickly dogfish



- **Denticles** The tooth-like denticles on a prickly dogfish's skin are ten times longer than on most sharks, giving it a thorny texture.
- **Triangle** This shark's strange shape, which looks triangular from the front, may be due to a very big liver full of lightweight oil. This lets it hang in the water without losing energy by swimming: a vital skill in its deep-sea home, where food is scarce.
- **Enigma** Found around Australia and New Zealand, these deep-living sharks are so rarely seen that most of their habits are a total mystery.



- **Down in the mouth**  
Prickly dogfishes' mouths are on the underside of their snouts. Their thick lips have little bumps used for tasting. The sharks have long, pointed top teeth while the bottom rows of teeth are flat like blades.

### Essential facts

**Where:** Indian and South Pacific Oceans

**Habitat:** deep water

**Prey:** shellfish, starfish, urchins

**Species:** *Oxynotus bruniensis*

**Length:** up to 90cm (36in)

**Weight:** unrecorded

**Depth:** 46-1,067m (150-3,500ft)

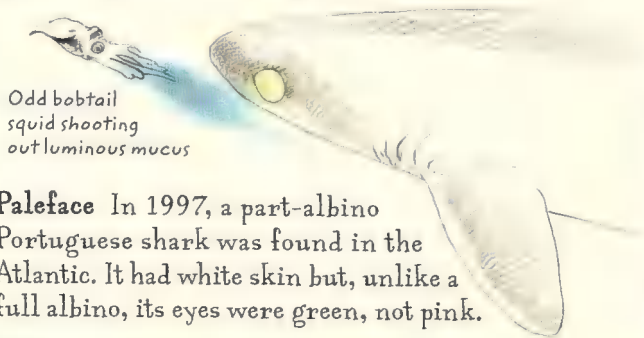
**Extinction risk:** unknown

**Family:** rough sharks

# Portuguese shark



- **Deep ones** Portuguese sharks have been found 3,675m (12,060ft) beneath the sea, making them the deepest-living of all sharks.
- **Squidhunter** Nearly 90% of this shark's diet is made up of deep-sea squid.
- **Shark liver oil** Portuguese sharks are caught by fishermen for the oil in their livers, which is used to make expensive skin creams.
- **Nightlights** This shark's big, round, green-gold eyes are perfectly suited to spotting the telltale glow of squid in the deep, dark ocean.



- **Paleface** In 1997, a part-albino Portuguese shark was found in the Atlantic. It had white skin but, unlike a full albino, its eyes were green, not pink.

## Essential facts

**Where:** Atlantic, Indian and Pacific Oceans

**Habitat:** ocean bottoms

**Prey:** squid, fish

**Species:** *Centroscyminus coelolepis*

**Length:** up to 1.2m (4ft)

**Weight:** unrecorded

**Depth:** 128-3,675m (420-12,060ft)

**Extinction risk:** medium

**Family:** sleeper sharks

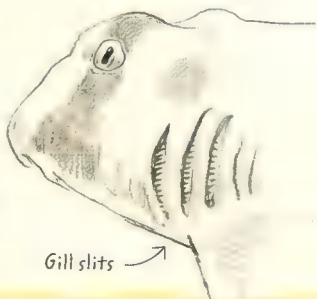
# Port Jackson shark





### Sydney Harbour

- **Port Jackson** These Australian sharks are named after Port Jackson, which contains Sydney Harbour. Some live under the capital city's famous bridge.
- **PJs** Divers have nicknamed these sharks 'PJs'.
- **Round trip** After breeding near Sydney, groups of female Port Jackson sharks travel up to 850km (530 miles) south to Tasmania, where they spend half the year before returning again.
- **Breathe easy** Many sharks can't eat and breathe at the same time, as they need to keep water moving across their gills. PJs can, though, by pumping water into a large front gill slit, and out again through its other gill slits.



### Essential facts

**Where:** Indian Ocean  
(Southern Australia)

**Habitat:** coastal waters

**Prey:** sea urchins, starfish, crabs

**Species:** *Heterodontus portusjacksoni*

**Length:** up to 1.6m (5.25ft)

**Weight:** up to 12kg (26lb)

**Depth:** 0-275m (0-900ft)

**Extinction risk:** low

**Family:** bullhead sharks

# Scalloped hammerhead

Hammer  
has scalloped,  
or bumpy edge

Dark-tipped  
pectoral  
fins

White  
belly

This is the  
most common  
hammerhead shark.





■ **Girl talk** Hundreds of scalloped hammerheads, mainly teenage females, gather by day around underwater mountains called seamounts. They use complex signals, such as shaking their heads, as they compete for position in hammerhead society. At night, they split up to go hunting.

■ **Magnetic map** This shark's hammer is full of sensors that can detect magnetic fields. It's thought they use these to navigate by following trails of metal-rich lava that have recently erupted from the seabed. (Fresh lava is more magnetic than old lava.)

■ **Keeping clean** Most fish avoid hammerheads, but cleaner fish approach fearlessly. The sharks are happy to let them eat the parasites that irritate their skin.



Scalloped hammerheads gather in huge schools.

## Essential facts

**Where:** warm seas worldwide

**Habitat:** coasts, islands

**Prey:** fish, sharks, rays, squid

**Species:** *Sphyrna lewini*

**Length:** up to 4.2m (14ft)

**Weight:** up to 152kg (335lbs)

**Depth:** 0-500m (0-1,640ft)

**Extinction risk:** very high

**Family:** hammerheads

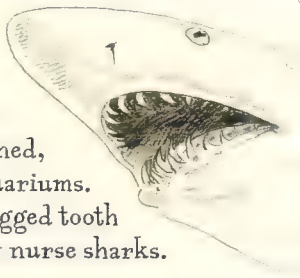
# Sandtiger shark

Often has  
spotted  
sides

Its 'ragged'  
teeth are  
visible when  
its mouth  
is shut.



- **Timid tiger** Sandtigers are big and look scary, with jutting teeth and staring eyes, but are harmless unless threatened, making them easy to keep in aquariums. They are known in Africa as ragged tooth sharks, and in Australia as grey nurse sharks.



- **Sibling rivalry** Sandtiger pups hatch from eggs in two separate wombs, and start off, like all mackerel sharks, by feeding on spare eggs. About five months later, they sprout teeth and turn cannibal, devouring each other until only the strongest survive to be born.
- **Belly bubbles** Sandtigers gulp air at the surface to lighten their bodies, so they don't have to swim all the time. It's said they break wind to adjust their depth.
- **Slow going** These sharks swim slowly, and have a big back dorsal fin; fast sharks tend to have small ones.



## Essential facts

**Where:** West Pacific, Atlantic and Indian Oceans

**Habitat:** warm coasts, reefs

**Prey:** fish, squid, rays

**Species:** *Carcharias taurus*

**Length:** up to 3.2m (10.5ft)

**Weight:** up to 160kg (350lbs)

**Depth:** 0-190m (0-625ft)

**Extinction risk:** high

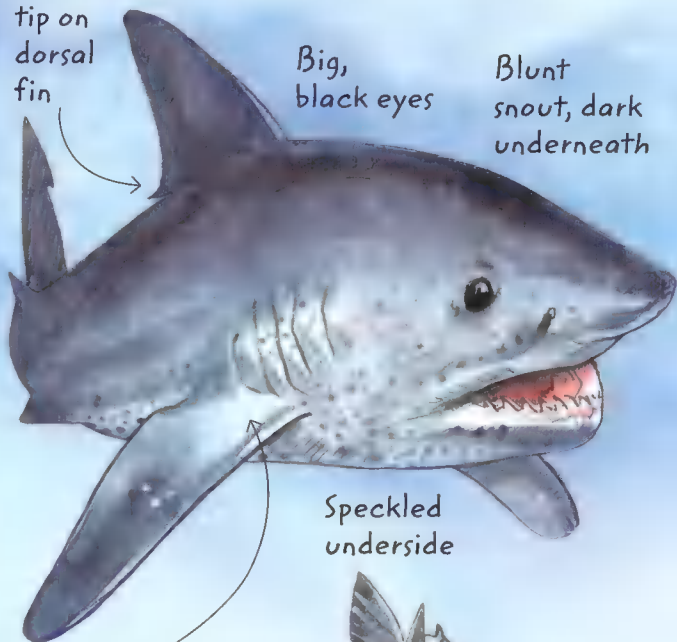
**Family:** mackerel sharks

# Salmon shark

Dark rear  
tip on  
dorsal  
fin

Big,  
black eyes

Blunt  
snout, dark  
underneath



Speckled  
underside

White  
patch above  
pectoral fin



- **Hot stuff** Salmon sharks, like others in the mackerel shark family, are warm-blooded, active hunters. Their body temperature can be as much as 11°C (20°F) warmer than the sea.
- **Cool customer** This shark's 'central heating' lets it pursue huge schools of salmon as they migrate north into the chilly waters off the coast of Alaska, USA.

A salmon shark hunting  
in Prince William  
Sound, Alaska



- **Porbeagles** Salmon sharks are also known as Pacific porbeagles, and are closely related to porbeagle sharks that live in the Atlantic.
- **Salmon pink** When these sharks are caught and eaten, it's found that their meat has the same pink hue as the salmon they feed on.

### Essential facts

**Where:** North Pacific Ocean

**Habitat:** cool coasts to open ocean

**Prey:** salmon, herring, sardines

**Species:** *Lamna ditropis*

**Length:** up to 3m (10ft)

**Weight:** up to 175kg (385lbs)

**Depth:** 0-225m (0-740ft)

**Extinction risk:** low

**Family:** mackerel sharks

# Smalleye hammerhead

Deep  
notch in  
middle of  
hammer

Small eyes



- **Why the hammer?** No one knows for sure why hammerhead sharks have hammer-shaped heads: there may be several reasons. Widely spaced eyes give a broad sweep of view for hunting, and set-apart nostrils help sharks better sniff out the direction of their prey.
- **Shark supper** These hammerheads are timid, and usually avoid their larger cousins, the scalloped hammerheads. But if a small eye catches a young scalloped unawares, it will gladly gobble it up.
- **Golden hammerheads** A group of small eyes lives off the coast of Venezuela, in the murky waters that flow from the Orinoco River. The younger sharks feed on yellow shrimp and catfish eggs, which give their skin a vivid metallic yellow or orange hue.



A golden hammerhead

## Essential facts

**Where:** West Atlantic Ocean  
(South America)

**Habitat:** coasts, muddy seabeds

**Prey:** fish, sharks, shellfish, squid

**Species:** *Sphyrna tudes*

**Length:** up to 1.5m (5ft)

**Weight:** unrecorded

**Depth:** 0-12m (0-40ft)

**Extinction risk:** high

**Family:** hammerheads



# Silky shark

*No obvious  
markings*

*White  
underside*

*Longish, flat,  
rounded snout*



- **Smoothies** Most sharks have sandpaper-like skin. Silky sharks are so named because theirs is smooth.
- **Listen up** Silkies have the sharpest hearing of all sharks, able to pinpoint sounds 400m (1,300ft) away. Listening for the chatter of fish-hunting dolphins may be one way they find food in the vast blue ocean.
- **Warning signs** Like many sharks, silkies use body language to signal that they are anxious or about to attack. They drop their pectoral fins and tails, arch their backs and lift their heads. They then swim in tight, jerky loops in front of the apparent threat. If that's you, it's time to leave – slowly.



An angry silky shark

- **Netbiters** Silkies are nicknamed 'netbiters' by tuna fishermen, because they get tangled in their nets and try to bite their way out.

### Essential facts

**Where:** warm seas worldwide

**Habitat:** rocky reefs, open ocean

**Prey:** fish, squid, crabs

**Species:** *Carcharhinus falciformis*

**Length:** up to 3.3m (10.8ft)

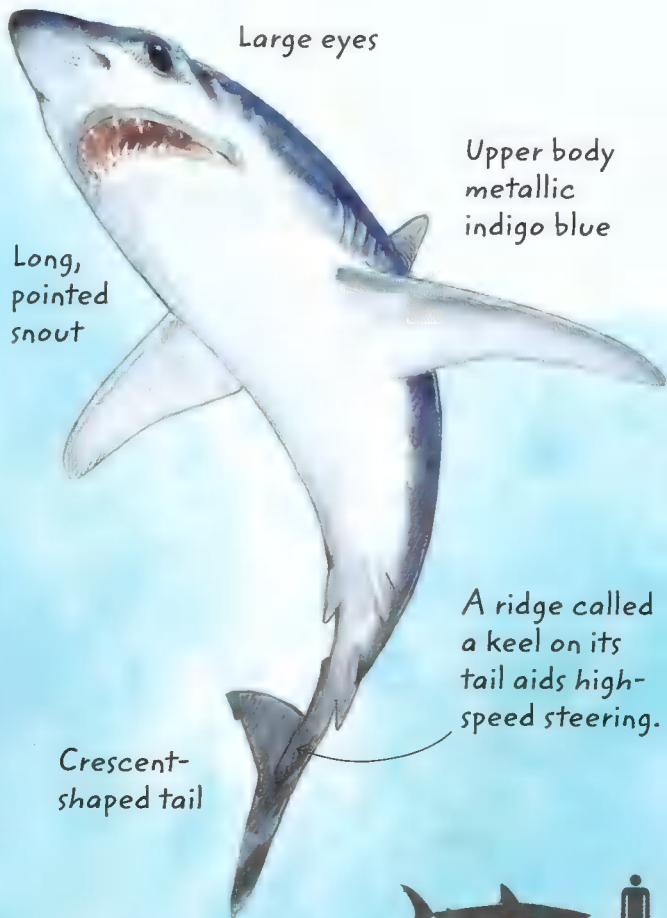
**Weight:** up to 346kg (763lbs)

**Depth:** 0–500m (0–1,640ft)

**Extinction risk:** medium

**Family:** requiem sharks

# Shortfin mako



Large eyes

Upper body  
metallic  
indigo blue

Long,  
pointed  
snout

A ridge called  
a keel on its  
tail aids high-  
speed steering.

Crescent-  
shaped tail



- **Blue dynamite** Nicknamed 'blue dynamite', shortfin makos are the fastest sharks in the sea. They can swim at 72kph (45mph) and may shoot up to 6m (20ft) out of the water.

The fastest shark leaps to catch a sailfish – the fastest fish of all.

- **Central heating** Like all mackerel sharks, makos are warm-blooded, keeping a steady body temperature above that of the sea. This lets them be more active than other sharks, able to tackle the speediest prey.
- **Unlucky 8** Like all large, active sharks, makos can be dangerous to divers. They give warning before attacking by swimming in a number-eight shaped pattern with their mouths open.



- **Fish fiend** A mako's long, curved teeth help it to grip the fish it hunts. It, in turn, is hunted by fishermen who regard this lively shark's jaws as a great prize.

### Essential facts

**Where:** cool to warm seas worldwide

**Habitat:** open ocean

**Prey:** fish, squid

**Species:** *Isurus oxyrinchus*

**Length:** up to 4m (13ft)

**Weight:** up to 505kg (1,113lbs)

**Depth:** 0-500m (0-1,640ft)

**Extinction risk:** high

**Family:** mackerel sharks

# Soupin shark

Long upper  
tail lobe

Small second  
dorsal fin

Sleek body

Long  
snout

Large, almond-  
shaped eyes

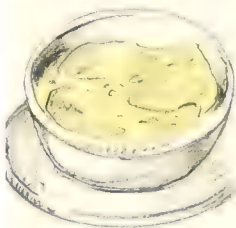


- **Shark finning** Soupfin sharks are so named because they are often caught for their fins, which are used in soup in Asia. Millions of sharks of many kinds are caught yearly, their fins cut off, and then the sharks are dumped into the sea, where, unable to swim, they slowly die.

A finned shark  
dying on the seabed



- **A.K.A.** These speedy fish hunters are also known as tope sharks, and school sharks, as they live in groups.
- **Long life** Soupfin sharks grow slowly, living up to 60 years of age. The females don't have babies until they're over ten years old. Their pups spend a year in the womb before they are born.



- **Shark fin soup** Shark finning is banned in many countries but unfortunately shark fin soup is still prized as a costly delicacy in China. To be seen eating it says that you are important.

## Essential facts

**Where:** cool seas worldwide

**Habitat:** coasts to offshore

**Prey:** fish, shellfish, seabed creatures

**Species:** *Galeorhinus galeus*

**Length:** up to 1.8m (6ft)

**Weight:** up to 48kg (106lbs)

**Depth:** 2-471m (7-1,545ft)

**Extinction risk:** high

**Family:** houndsharks

# Smallspotted catshark

Long,  
slender,  
tapering  
body

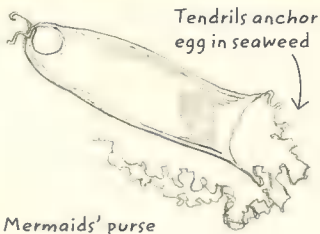
Many small,  
dark spots

Blunt snout



### ■ Mermaids' purses

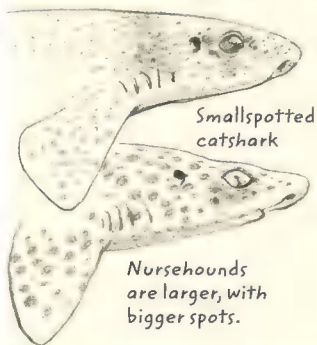
The tough eggs of smallspotted catsharks are known as mermaids' purses. They are often washed up on beaches.



Mermaids' purse

■ **Cats' eyes** Catsharks are named because of the way their greenish eyes reflect light, like a cat's.

■ **Common cats** This is the most common shark seen around the UK. The catshark family is the biggest group of sharks, containing at least 160 species all around the world.



Smallspotted catshark

Nursehounds are larger, with bigger spots.

• **Cats and dogs** Confusingly, catsharks are also known as dogfish, while true dogfish are not closely related at all. Smallspotted catsharks are called common or lesser spotted dogfish. Their close relatives, nursehounds, are called greater spotted dogfish.

### Essential facts

**Where:** Northeast Atlantic Ocean and Mediterranean Sea

**Habitat:** coasts to offshore

**Prey:** shellfish, worms, small fish

**Species:** *Scyliorhinus canicula*

**Length:** up to 1m (3.3ft)

**Weight:** up to 13kg (3lbs)

**Depth:** 10-400m (30-1,300ft)

**Extinction risk:** low

**Family:** catsharks



# Spinner shark



White  
underside

Black tips on  
pectoral fins

Long, narrow,  
pointed snout



- **In a spin** This shark has an unusual hunting technique. It spirals upwards rapidly through a shoal of fish, surprising them and snapping all around. It is still spinning as it leaps out of the water, giving it its name.



- **Great blacktip Spinner** sharks are often mistaken for blacktip sharks, but they are longer and more slender. They are sometimes called great blacktips.
- **Swallowed** The teeth of spinner sharks are long and narrow – perfect for grasping fish, but they cannot cut, so spinners swallow their prey whole.
- **Fish frenzy** These sharks are always excitable when feeding, but especially if they come across a shrimp trawler that's dumping unwanted fish ('bycatch') overboard. The unexpected feast can drive them into a 'feeding frenzy' in which they snap wildly around at anything, even biting each other.

## Essential facts

**Where:** Atlantic, Indian and West Pacific Oceans

**Habitat:** warm coastal waters

**Prey:** fish, rays, squid

**Species:** *Carcharhinus brevipinna*

**Length:** up to 2.8m (9ft)

**Weight:** up to 90kg (200lbs)

**Depth:** 0-75m (0-246ft)

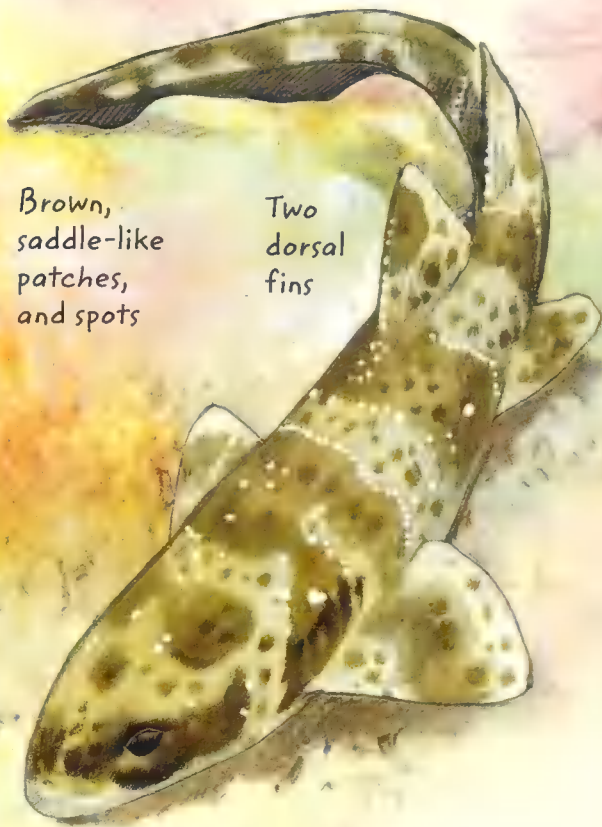
**Extinction risk:** medium

**Family:** requiem sharks

# Swell shark

Brown,  
saddle-like  
patches,  
and spots

Two  
dorsal  
fins





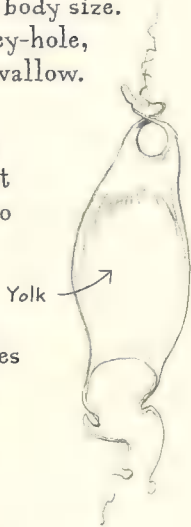
### ■ Balloon belly

When threatened by a predator, this shark gulps down a bellyful of water, and swells to double its usual body size. This helps it to wedge itself in a hidey-hole, and makes it harder for big fish to swallow.

- **Easy meal** A swell shark hides among rocks and seaweed by day, coming out at night to hunt. One trick it uses is to lie on the seabed with its mouth open, waiting for fish to swim inside.

- **Eggs** Swell shark eggs have tough cases with long tendrils to attach them to seaweed. The pup grows inside for 9-12 months, feeding on a large yolk.

- **Woof!** If a swell shark is caught by a fisherman, it tries to inflate, but can only fill with air. As it lets the air out, it sounds like a dog barking.



### Essential facts

**Where:** East Pacific Ocean  
(North to South America)

**Habitat:** rocky bottoms, in seaweed

**Prey:** fish, shellfish

**Species:** *Cephaloscyllium ventriosum*

**Length:** up to 1m (3.3ft)

**Weight:** unrecorded

**Depth:** 5-457m (16-1,500ft)

**Extinction risk:** low

**Family:** catsharks

# Striped catshark

Short  
dorsal fins  
near tail

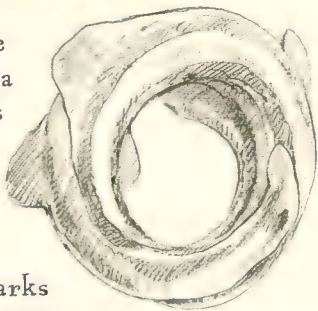


Barbels  
(feelers)

Dark stripes  
along body



- **Scaredy cat** This shy little shark is also called a pyjama (or pajama) shark. If enemies threaten it, it curls into a ring so they can't tell its head from its tail.



- **Daydreamer** Striped catsharks hide in caves and rock crevices in the day, emerging at night to hunt for small seabed creatures such as shrimp, mussels and worms, and little fish such as anchovies.
- **Arch-enemy** These sharks are very often on the menu of the much larger broadnose sevengill sharks.
- **Sneak attack** Around November, chokka squid come to South Africa to breed, laying large masses of eggs. Catsharks find squid tasty, but squid are fast, sharp-sighted, and mate by day when the sharks are dozing. The sharks solve this by resting, hidden, among the eggs. After chokkas mate, the male stands guard to see off rivals – then the shark sneaks up and eats him.

### Essential facts

**Where:** South Africa (south coast)

**Habitat:** rocky reefs

**Prey:** shellfish, small fish and squid

**Species:** *Poroderma africanum*

**Length:** up to 95cm (37in)

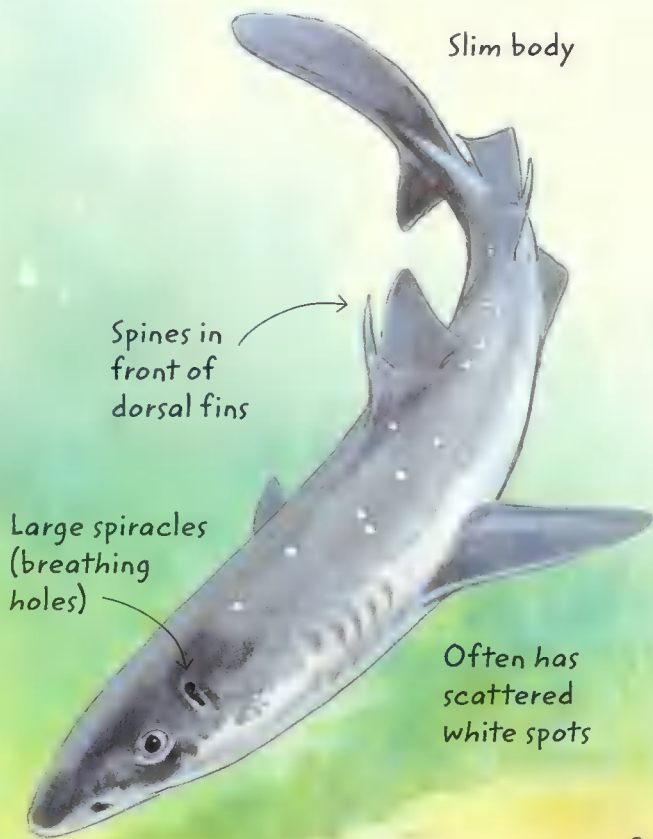
**Weight:** unrecorded

**Depth:** 0-282m (0-925ft)

**Extinction risk:** medium

**Family:** catsharks

# Spiny dogfish

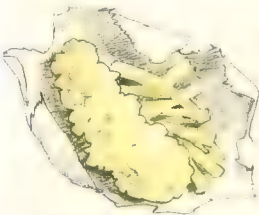


- **Spurdogs** These small sharks, also called spurdogs, are so named because of the spines on their dorsal fins. These contain a mild venom and are used to fend off enemies.

Spine



- **Old dogs** Spiny dogfish grow very slowly, and can live to be 100 years old.
- **Sad decline** These used to be the most common sharks, but have been fished so heavily in Europe that their numbers there have dropped by 95%. Spiny dogfish have babies only every couple of years, so if their numbers fall, it's hard for them to grow again.
- **Dog packs** Spiny dogfish live and feed together in large, single-sex 'packs' that travel far and wide.



Shark 'n' chips

- **Rock salmon** Although these sharks are endangered in Europe, their meat is still often fried in batter and sold in UK 'fish and chip shops', under the name of rock salmon, rock eel or flake.

## Essential facts

**Where:** cool seas worldwide

**Habitat:** coasts to offshore

**Prey:** fish, shellfish, squid

**Species:** *Squalus acanthias*

**Length:** up to 2m (6.6ft)

**Weight:** up to 9kg (20lbs)

**Depth:** 0-600m (0-2,000ft)

**Extinction risk:** high

**Family:** dogfish sharks



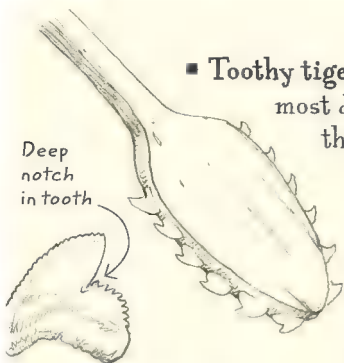
# Tiger shark

Large eyes

Dark stripes and spots on younger sharks fade as they mature

Broad, blunt snout





- Toothy tiger** This large shark is the most dangerous to people after the great white. Its powerful jaws and saw-edged teeth, shaped like a rooster's crest, can even cut through turtle shells.

This wooden weapon from Hawaii is studded with tiger shark teeth.

- Garbage can** Nicknamed a 'garbage can with fins', the tiger shark is a scavenger that will eat literally anything it can swallow. Its motto seems to be 'eat first, ask questions later.' If something disagrees with it, it turns its stomach inside out, and vomits it out.

- Junk food** Some of the strange things found in dead tiger sharks' stomachs include cans, boots, bottles, tools, deer antlers, a tom-tom drum and an unexploded artillery shell.



## Essential facts

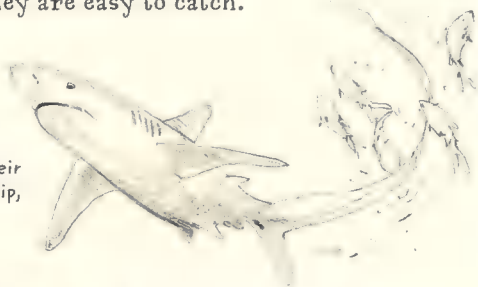
<b>Where:</b> cool to warm seas worldwide	<b>Length:</b> up to 5.5m (18ft)
<b>Habitat:</b> murky coastal waters	<b>Weight:</b> up to 807kg (1,780lbs)
<b>Prey:</b> anything it can swallow	<b>Depth:</b> 0-140m (0-500ft)
<b>Species:</b> <i>Galeocerdo cuvier</i>	<b>Extinction risk:</b> medium
	<b>Family:</b> requiem sharks

# Thresher shark



- **Tremendous tail** A thresher shark's tail can be the same length as the rest of its body.
- **Jumpers** Threshers sometimes jump up to 6m (20ft) out of the water, even when they're not chasing fish. No one is sure why, but they may be trying to dislodge parasites that make their gills itch.
- **Thwack!** These sharks are so named because of the way they use their long tails to thresh, or thrash, small fishes, stunning them so they are easy to catch.

Thresher sharks use their tails like a whip, with deadly accuracy.



- **Sea fox** This shark's scientific name, *Alopias vulpinus*, means fox shark. The Ancient Greeks considered it to be as cunning as a fox. In one story they told, it bit a fisherman's line to free itself.

### Essential facts

**Where:** all but the coldest seas

**Habitat:** coasts to far offshore

**Prey:** small fish such as herring

**Species:** *Alopias vulpinus*

**Length:** up to 6m (20ft)

**Weight:** up to 348kg (767lbs)

**Depth:** 0-366m (0-1,200ft)

**Extinction risk:** high

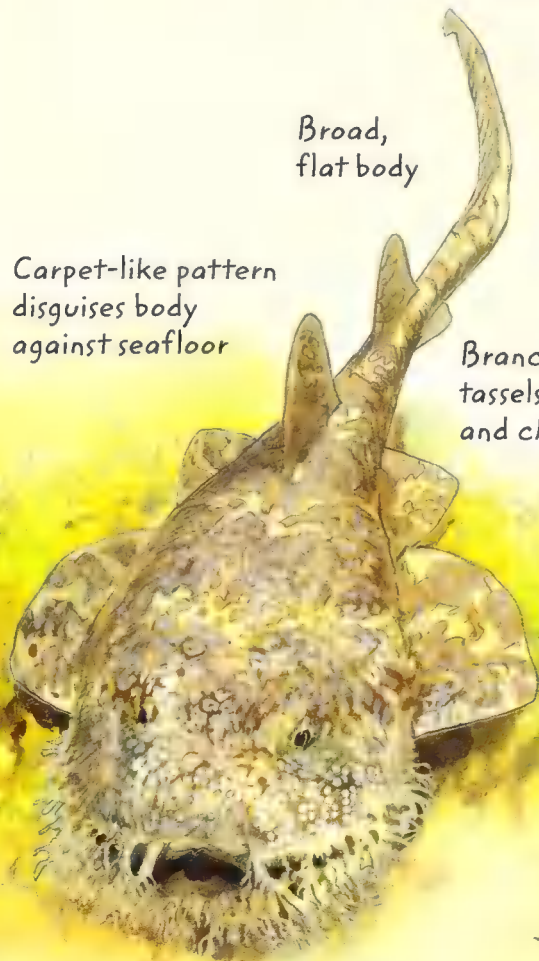
**Family:** thresher sharks

# Tasselled wobbegong

Broad,  
flat body

Carpet-like pattern  
disguises body  
against seafloor

Branching  
tassels on head  
and chin



- **Living rock** 'Wobbegong' is a word from the native Aborigine people of Australia, where it lives. Its exact origin is lost, but some think it means 'living rock' – an apt name for this master of camouflage.
- **Weedy beard** The tassels around this shark's head look like seaweed, helping to perfect its disguise as a patch of seabed.
- **Secret shark** Wobbegong camouflage is so good that one lived in an aquarium in Blackpool, UK, for years, undetected by staff. Their first clue was when it laid its eggs.
- **Mouthtrap** Fish often mistake the wobbegong's tassels for worms, and are lured towards it. When they are close enough, it springs to life, gobbling them up in its enormous mouth.



### Essential facts

**Where:** Southwest Pacific Ocean

**Habitat:** coral reefs, seabed

**Prey:** small fish

**Species:** *Eucrossorhinus dasypogon*

**Length:** up to 1.2m (4ft)

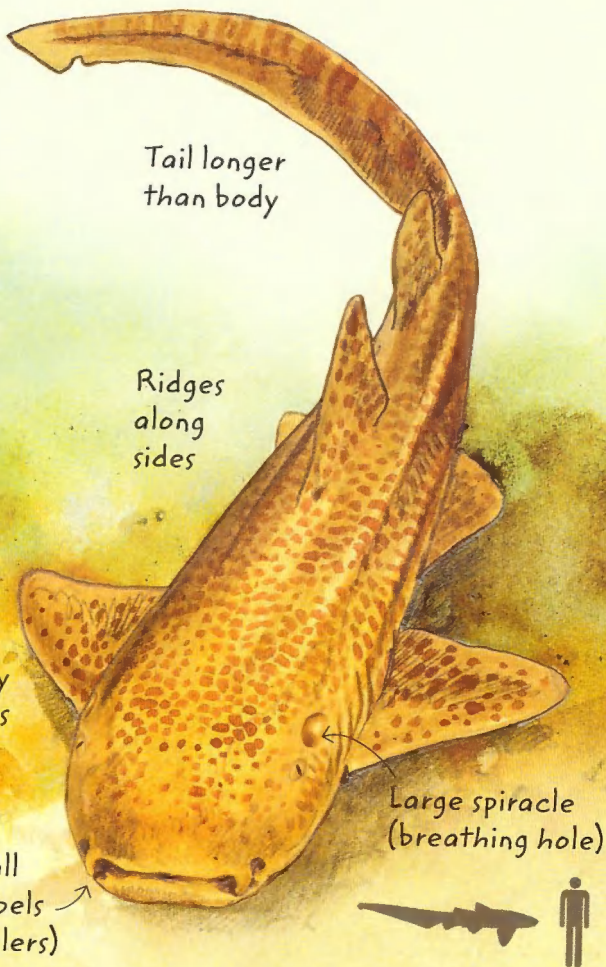
**Weight:** unrecorded

**Depth:** 10–40m (30–130ft)

**Extinction risk:** medium

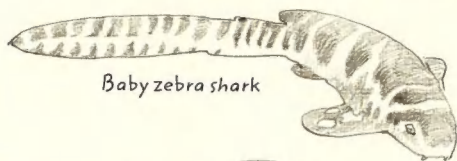
**Family:** wobbegongs

# Zebra shark

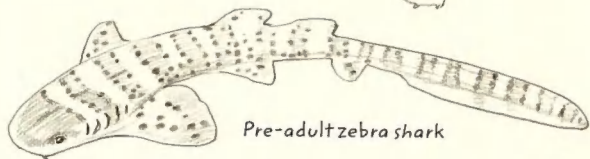




- **Spotted zebras?** Zebra sharks are so named because of their young, which look very different from the adults, having a bold pattern of stripes. As they mature, they gradually lose their stripes and gain leopard-like spots.



Baby zebra shark



Pre-adult zebra shark

- **Take it easy** Zebra sharks are rarely in a hurry. By day, they rest on the seafloor, propped up on their fins, mouths open, facing into the current. This lets oxygen-rich water pass over their gills.
- **Shrimp-sucker** This shark has powerful throat muscles which enable it to suck up its prey with great force, vacuuming snails, crabs and shrimp from their undersea hidey-holes.

### Essential facts

**Where:** Indian and West Pacific Oceans

**Habitat:** coastal waters, reefs

**Prey:** shellfish, small fish

**Species:** *Stegostoma fasciatum*

**Length:** up to 3.5m (11.5ft)

**Weight:** unrecorded

**Depth:** 0-60m (0-200ft)

**Extinction risk:** high

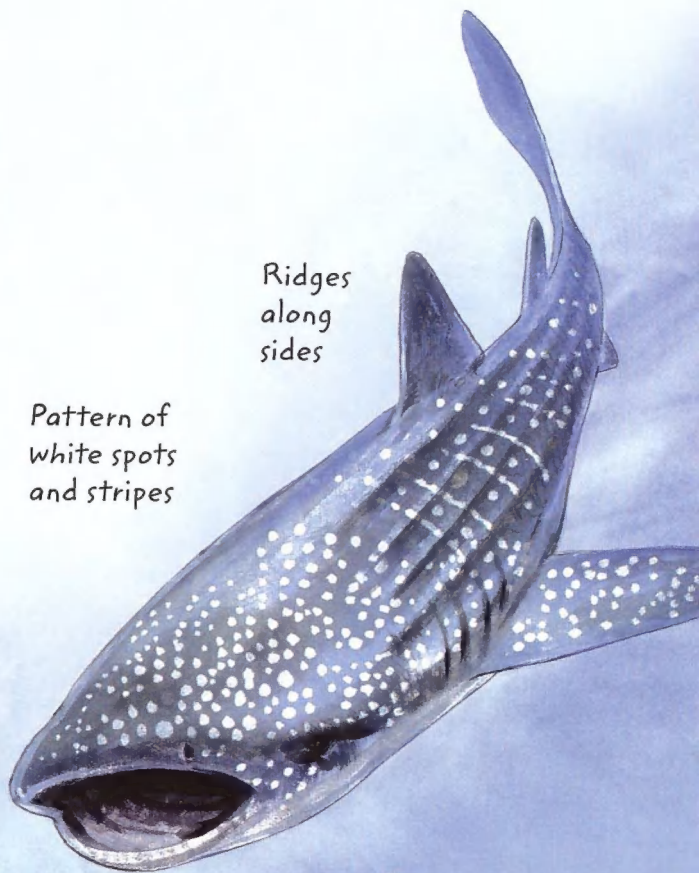
**Family:** zebra sharks



# Whale shark

Ridges  
along  
sides

Pattern of  
white spots  
and stripes



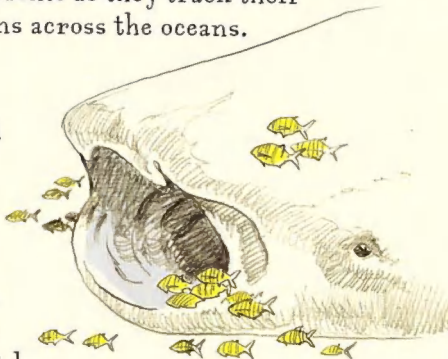
Huge mouth



- **Record breaker** The whale shark is the biggest fish in the sea. It can grow longer than a bus.
- **Gulp!** Despite the great size of its mouth, a whale shark can't swallow anything larger than a grapefruit. It feeds on tiny creatures called plankton, filtering them out of the ocean, along with small fish and squid.
- **Unique** Every whale shark has a unique pattern of stripes and spots on its back. Scientists use these like fingerprints as they track their lengthy migrations across the oceans.

- **Bodyguard**

Yellow fish called golden trevallies often travel with whale sharks for safety. The shark is harmless to the trevallies, but its size deters other fish that prey on them.



Golden trevallies may even hide in a whale shark's mouth.

## Essential facts

	<b>Length:</b> up to 13m (43ft)
<b>Where:</b> warm seas worldwide	<b>Weight:</b> up to 21,000kg (46,300lbs)
<b>Habitat:</b> open ocean	<b>Depth:</b> 0-700m (0-2,300ft)
<b>Prey:</b> plankton, small fish	<b>Extinction risk:</b> high
<b>Species:</b> <i>Rhincodon typus</i>	<b>Family:</b> whale sharks